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ABSTRACT

This report presents findings of a survey of engineering college faculty at eight participating institutions in SUCCEED (Southeastern University and College Coalition for Engineering Education) concerning their use of various instructional methods, their prior involvement in instructional development programs, and their perceptions about institutional support for teaching on their campuses. Findings of the survey responses (n=503, or 32 percent) were analyzed and organized according to the following aspects: participation in faculty development programs and discussions of teaching; use of instructor-centered teaching methods; use of active learning; use of group assignments, team projects, and writing assignments; use of various methods of communicating with students; and rated importance of teaching quality. Analysis also looked at inter-institutional differences, differences by professorial rank, and sex differences. Findings indicated a moderate level of involvement by respondents in attending teaching seminars and implementing nontraditional teaching practices, such as using team activities in and out of class, giving writing assignments, and using e-mail and the World Wide Web. Respondents tended to believe that teaching is more important to them than it is to their colleagues and administrators and that it counts for relatively little in the faculty incentive and reward structure. The questionnaire is appended. (DB)

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SOUTHEASTERN UNIVERSITY AND COLLEGE
COALITION FOR ENGINEERING EDUCATION

1997-1998 Faculty Survey of Teaching Practices and Perceptions of Institutional Attitudes Toward Teaching

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March 1999

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Executive Summary

SUCCEED (Southeastern University and College Coalition for Engineering Education) is a National Science Foundation-sponsored engineering education coalition. The participating institutions are Clemson University, Georgia Tech, Florida A&M-Florida State University, North Carolina State University, North Carolina A&T State University, University of Florida, University of North Carolina at Charlotte, and Virginia Polytechnic Institute and State University. SUCCEED was first funded in 1992 and began its second five-year award period with a mission of scaling up and institutionalizing the educational reforms developed and pilot-tested in its first five years. A major component of this effort is the design and implementation of a faculty development program. The program objectives are (1) to promote faculty adoption of nontraditional instructional methods and materials that have been proven effective by classroom research studies and (2) to improve institutional support for teaching at each of the eight SUCCEED campuses.

As the first step in assessing and evaluating the faculty development program, a baseline campus climate survey was sent to all engineering faculty members at the Coalition schools. The survey asked the respondents about their use of a variety of instructional methods, their prior involvement in instructional development programs, and their perceptions about institutional support for teaching on their campuses. The survey was administered to some faculty members via e-mail and to others via the World Wide Web during the period from December 1997 to February 1998, and a second round was sent to non-respondents by e-mail in March 1998. Administrations of the same survey in 2000 and 2002 will indicate the degree to which the faculty development program is meeting its objectives.

Response rates and respondents

Five hundred and three valid usable surveys were received. The coalition-wide response rate was 32%, with responses on individual campuses ranging from 26% to 45%. (A return of 25% is considered quite good in survey research of this type.) The respondents included

- 10% female, 85% male, 5% who did not respond to this item.
- 3% instructors/lecturers, 19% assistant professors, 31% associate professors, 40% full professors, 5% "other" (mostly full-time administrators), 2% non-respondents.
- 73% teaching/research faculty, 9% teaching faculty, 2% research faculty, 13% administration or "other," 3% non-respondents.
- 8% with less than two years teaching experience, 12% 2–5 years, 20% 5–10 years, 32% 10–20 years, 26% more than 20 years, 2% non-respondents.

The distributions of the respondents by academic ranks and disciplines closely matched the total faculty population of the SUCCEED campuses. Women faculty members were overrepresented (roughly 10% of the respondents, as compared with 7% of the total

faculty population), as were faculty active in SUCCEED and past participants in SUCCEED programs.

The respondents were asked to characterize student ratings of their teaching and average student ratings for their department on a scale from 0 (extremely poor) to 10 (superior). The results were as follows.

- *Respondents' ratings:* N = 498, Mean = 7.91, Standard Deviation = 1.12, Minimum = 3, Maximum = 10.
- *Department ratings:* N = 485, Mean = 6.89, Standard Deviation = 1.04, Minimum = 1, Maximum = 10.

The implication is that better-than-average teachers were overrepresented among the survey respondents.

The sections that follow summarize the principal findings of the study, emphasizing results that show significant between-group differences.

Participation in Faculty Development Programs and Discussions of Teaching

- *Attended teaching seminars, workshops, and conferences.* In the preceding year, 9% attended three or more programs, 16% attended two, 30% attended one, and 45% attended none. In their careers, 13% attended 10 or more, 16% attended 6–10, 29% attended 3–5, 26% attended 1–2, and 15% attended none.
- *Participated in SUCCEED activities:* 7% directed a coalition project and 14% were actively involved in one, 13% attended a coalition program but were not involved in a project, 57% heard of the coalition but were never involved in it, and 8% knew nothing about the coalition.
- *Discuss teaching with colleagues:* 12% did so more than once a week, 39% less than once a week and more than once a month, 40% once a month or less, 5% never (3% non-respondents).
- *Discuss teaching with graduate students:* 7% did so more than once a week, 21% less than once a week and more than once a month, 44% once a month or less, 15% never, and 9% did not work with graduate students (4% non-respondents).
- When asked how often they had used faculty development resources on their campuses, over half of the respondents indicated that they had used them at least once. Eighty-nine percent of these respondents indicated that they had attended a workshop or seminar, 31% consulted or borrowed books, 14% worked individually with a teaching consultant, and 9% indicated that they had done something else. (Respondents were asked to mark all responses that applied.) Women were significantly more likely to use faculty development resources than were men, with two-thirds using them at least once compared with just over half of the men.

Use of Instructor-Centered Teaching Methods

The respondents were asked about the frequency with which they used different instructional methods, and were told not to respond if they taught only non-lecture courses (laboratories and project-based courses like design). The percentages to be given are based on those who responded to each item. The term "semester" means whichever of the terms "semester" or "quarter" applies.

Four of the questions referred to instructor-centered teaching methods that do not call for much active student involvement.

- *Lecture for most of a class period:* 66% reported doing so in every class session, 29% once or more a week, 3% once or more a month, 1% once or more a semester, and 1% never. (The respondents were instructed to check the first response that applied to them.)
- *Use overhead transparencies:* 25% used them in every class session, 33% once or more a week, 20% once or more a month, 15% once or more a semester, and 7% never use them.
- *Use in-class demonstrations:* 4% used them in every class session, 17% once or more a week, 34% once or more a month, 32% once or more a semester, 14% never.
- *Direct questions to the entire class:* 84% did so every class session, 13% once a week or more, and 3% less than once a week.

Most teaching seminars and workshops are concerned largely with presenting active alternatives to straight lecturing. The results of this study show a strong negative correlation between attendance at teaching seminars and extensive lecturing. The instructors who lectured for most of every class session they taught included 85% of those who had never attended a teaching seminar in their career, 72% of those attending one or two seminars, 60% of those attending 3–5, 62% of those attending 6–10, and 49% of those attending more than ten. Teaching/research faculty were more likely to engage in straight lecturing (69%) than were teaching faculty (55%).

Using demonstrations in class can be an effective alternative to straight lecturing, albeit one that still may keep students in a passive role. Instructors who presented demonstrations at least once a week in their classes included 15% of those who had never attended a teaching seminar, 17% of those attending one or two, 17% of those attending 3–5, 24% of those attending 6–10, and 36% of those attending more than 10.

We should point out that these results show correlation, not necessarily causation. They probably indicate that teaching seminars have a positive effect on faculty teaching practices, and they probably also reflect a greater tendency of faculty members who use active learning and other nontraditional methods to attend teaching seminars. The same caution applies throughout this report.

Use of Active Learning

Active learning methods are those that call upon all students to do things in class other than watching and listening to the professor and taking notes. Fifty-eight percent of the respondents reported giving brief in-class assignments to groups of students at least once a semester, with 17% doing so at least once a week. Forty percent put students in groups for most of a class period at least once a semester, with 8% doing so at least once a week.

Assistant professors were most likely to put students in groups for brief intervals at some point during the semester, with two-thirds of them doing so compared to less than 60% of the associate professors and just over half of the full professors. The use of active learning exercises correlated with career attendance at teaching seminars: those using them included 80% of those who attended more than ten seminars, 67% of those attending 6–10, 64% of those attending 3–5, 47% of those attending 1–2, and 32% of those who never attended a seminar. Instructors who assigned group exercises at least once a semester included roughly 75% of respondents who had been involved with SUCCEED in some manner and 50% of nonparticipants. Women (75%) were more likely than men (57%) to report putting students into groups for brief intervals during class.

The more teaching seminars faculty members attended in their careers, the more likely they were to report putting students in groups for most of class at some point during the semester. Sixty-six percent of those attending more than ten seminars reported doing so, compared with about 40% of those who had attended one to ten (the actual number attended made very little difference) and 18% of those who had never attended one. Women (56%) were more likely than men (39%) to report putting students into groups for most of a class session at least once during the semester. Faculty members at Masters' institutions (51%) were more likely than their counterparts at research institutions (38%) to report putting students in groups for most of class at some point during the semester.

Use of Group Assignments, Team Projects, and Writing Assignments

A strong focus of many teaching workshops is assignment of work to be done by teams of students outside class. Respondents were asked about the frequency with which they assign group work in classes other than laboratories or design courses. Optional group work was assigned 1–3 times a week by 24% of the respondents, 1–3 times a month by 17%, 1–3 times a semester by 24%, and never by 34%. Mandatory group work was assigned 1–3 times a week by 10% of the respondents, 1–3 times a month by 10%, 1–3 times a semester by 25%, and never by 55%.

About two-thirds of the respondents who had ever attended a teaching seminar let students do homework in groups, compared with less than half of those who had never attended one. Roughly 50% of the seminar attendees and 60% of those who had been involved in some way with SUCCEED activities ever assigned mandatory group work, as

compared with 19% of the respondents who never attended a seminar and 33% of those who had not been involved with SUCCEED.

Twenty-four percent of the respondents assigned a major team project in every course they taught, 52% assigned one in some but not all courses, and 24% never assigned one. Between 75% and 80% of those who had attended teaching seminars assigned team projects, as compared with 51% of those who never attended one. Teaching faculty (69%) were less likely than teaching/research faculty (75%) and administrators (84%) to assign major team projects.

- Eight percent of the respondents reported giving writing assignments 1–3 times a week, 28% gave them 1–3 times a month, 48% 1-3 times a semester, and 16% never. Between 85% and 90% of those who had attended teaching seminars gave them, as compared with 74% of those who never attended one.

Use Various Methods of Communicating with Students

- *Use e-mail to communicate to the entire class:* 25% reported doing so at least once a week, 22% less than once a week but more than once a month, 18% once a month or less, 35% never. Assistant professors (73%) and associate professors (69%) were more likely than full professors (59%) to use e-mail to communicate with their classes. Roughly 32% of assistant professors did so weekly compared with 28% of associate professors and 19% of full professors.
- *Present information via the World Wide Web:* 27% did so at least once a week, 14% less than once a week but more than once a month, 21% once a month or less, 37% never. Assistant professors (76%) were much more likely than associate professors (61%) or full professors (58%) to use the World Wide Web as a communications medium with their students.
- *Write instructional objectives for a course:* 39% always wrote them, 21% usually, 21% sometimes, 19% never. Those who wrote them included 89% of respondents who had attended 10 or more teaching seminars in their careers, 82% of those attending 6–10 seminars, 84% of those attending 3–5 seminars, 77% of those attending 1–2 seminars, and 72% of those who never attended a seminar.
- *Give study guides to students before tests:* 35% always did so, 24% usually, 21% sometimes, 20% never.
- *Give a study guide to students before the final exam:* 39% always did so, 21% usually, 17% sometimes, 23% never.
- *Solicit feedback from students:* 4% did so in every class session, 11% more than once a week, 27% more than once a month, 57% once or more a semester, 2% never.

Participation in Faculty Development Programs and Discussions of Teaching

- *Attended teaching seminars, workshops, and conferences.* In the past year, 9% attended three or more, 16% attended two, 30% attended one, and 45% attended none. In their careers, 13% attended 10 or more, 16% attended 6–10, 29% attended 3–5, 26% attended 1–2, and 15% attended none.

- *Participated in SUCCEED activities:* 7% directed a coalition project, 14% were actively involved in a coalition project, 13% attended a coalition program but were not involved in a project, 57% heard of the coalition but were never involved in it, and 8% knew nothing about the coalition.
- *Discuss teaching with colleagues:* 12% do so more than once a week, 39% less than once a week and more than once a month, 40% once a month or less, 5% never (3% non-respondents).
- *Discuss teaching with graduate students:* 7% do so more than once a week, 21% less than once a week and more than once a month, 44% once a month or less, 15% never 9% do not work with graduate students (4% non-respondents).

Rated Importance of Teaching Quality

The respondents were asked to rate the importance of high quality teaching (defined as teaching that sets high but attainable standards for learning, enables most students being taught to meet or exceed those standards, and produces high levels of satisfaction and self-confidence in the students) and innovative teaching (testing new methods, writing textbooks or instructional software) to themselves, to their colleagues and administrators, and in their institution's faculty incentive and reward system (recognition, raises, tenure, promotion). They were told to use a 0–10 scale, with 0 meaning "not at all important" and 10 meaning "extremely important."

The average ratings and standard deviations of the importance of teaching quality were as follows: To respondent – 9.26 (1.01); to colleagues – 7.34 (1.69); to department head – 7.70 (2.14); to the dean – 7.02 (2.26); to the chancellor and provost – 7.02 (2.16). The average rating of the importance of teaching quality in the faculty incentive and reward system was 4.72 (2.24), and the average rating of the importance of innovative teaching in the incentive and reward system was 4.48 (2.35). The pairwise differences in these mean values were subjected to t-tests. All differences were significant at or below the .001 level except for those between the ratings given to the dean and the chancellor/provost.

Women gave lower ratings than men to the importance of teaching to colleagues [W – 6.62 (1.97), M – 7.41 (1.62)], to the department head [W – 7.13 (2.37), M – 7.78 (2.09)], and to the dean [W – 6.27 (2.22), M – 7.07 (2.24)]. All of the differences were significant at the $p \leq .05$ level.

Significant differences exist in the mean responses given by respondents in different academic positions. The rated importance of teaching quality to the respondent was significantly higher among those identifying themselves as teaching faculty [9.76 (0.52)] than among those who identify themselves as engaging in both teaching and research [9.20 (1.06)]. The importance of teaching to the department head was rated significantly higher by administrators (including department heads) [8.72 (1.69)] than by teaching/research faculty [7.53 (2.12)], and administrators similarly rated the importance of teaching quality to the dean [7.96 (2.15)] significantly higher than did teaching faculty [6.43 (2.62)] or teaching/research faculty [6.90 (2.18)]. Those who identified themselves

as teaching faculty rated the importance of teaching quality in the academic reward system [3.98 (1.99)] significantly lower than did those who identified themselves as teaching research faculty [4.74 (2.21)], research faculty [5.62 (3.02)], and administrators [5.44 (2.38)].

Inter-institutional Differences

There were substantial variations in responses from different institutions. The differences were not subjected to tests of statistical significance as the purpose of this study is to provide information about the coalition as a whole rather than to compare member institutions. Some of the observed ranges follow. Numbers in parentheses are standard deviations.

- *Attended at least one teaching seminar:* Low=75%, High=97%
- *Attended 6 or more teaching seminars:* Low=24%, High=42%
- *Use brief in-class group exercises:* Low=47%, High=83%.
- *Use group exercises lasting most of a class period:* Low=34%, High=55%.
- *Assign required team homework:* Low = 35%, High = 72%.
- *Provide class information via the World Wide Web:* Low=56%, High=69%.
- *Importance of teaching quality* (0=not at all important, 10=extremely important)
  - *to respondent:* Low=8.98(1.26), High=9.41(0.82)
  - *to colleagues:* Low=6.76(2.32), High=7.97(1.26)
  - *to department head:* Low = 6.66(2.92), High = 8.32(1.42)
  - *to dean:* Low=6.44(2.21), High=7.76(1.89)
  - *to president/chancellor/provost:* Low=6.03(2.41), High=7.80(1.76)
- *Importance of teaching quality in the faculty reward system:* Low=4.10(1.99), High=4.99(2.17)
- *Importance of teaching innovation in the faculty reward system:* Low=3.18(2.42), High=5.03(2.17)

Rank Differences

Several differences in responses of assistant professors, associate professors, and full professors were noted. Assistant professors

- were more likely than associate or full professors to use brief group activities in their classes (asst. – 68%, assoc. – 59%, full – 52%) and to use the World Wide Web to provide information to students (asst. – 76%, assoc. – 62%, full. – 58%).
- Were somewhat more likely than associate professors and more likely than full professors to use email to communicate with their classes (asst. - 73%, assoc. - 69%, full - 58%)
- were equally likely as associate professors and more likely than full professors to use group activities lasting most of a class period (asst–44%, assoc–45%, full–34%).
- were just as likely as associate and full professors to assign required team homework (asst–44%, assoc–43%, full–47%).

- gave comparable ratings of the importance of teaching quality to themselves (asst. – 9.15, assoc. – 9.29, full – 9.25) and to their institutions' top administrators (asst. – 7.13, assoc. – 6.94, full – 7.01), significantly lower ratings to their colleagues (asst. – 7.05, assoc. – 7.25, full – 7.53), and similar ratings to their department heads (asst. – 7.58, assoc. – 7.51, full – 7.86) and deans (asst. – 6.78, assoc. – 6.85, full – 7.21).
- gave ratings of the importance of teaching quality and innovation in the faculty reward system comparable to those of the associate professors and below those of the full professors, though not significantly (quality: asst. – 4.60, assoc. – 4.54, full – 4.94), (innovation: asst. – 4.20, assoc. – 4.30, full – 4.73).

Sex differences

Relative to men, women

- were more likely to have used faculty development resources on campus (W – 67%, M – 53%), to use brief in-class group activities (W – 76%, M – 57%).
- were more likely to use group activities lasting most of a class period (W – 56%, M - 39%), and to use the World Wide Web to provide information to students (W - 78%, M - 62%). They were equally likely to assign required team homework (45% of men and women).
- gave comparable ratings to the importance of teaching quality to themselves (W – 9.26, M – 9.28) and to their institutions' top administrators (W – 6.98, M – 7.05), and lower ratings to their colleagues (W – 6.64, M – 7.40), department heads (W – 7.26, M – 7.78), and deans (W – 6.46, M – 7.10).
- gave lower ratings to the importance of teaching quality (W – 4.56, M – 4.77) and innovation (W – 4.30, M – 4.55) in the faculty reward system.

Conclusions

The survey indicates a moderate level of involvement of the respondents in attending teaching seminars and implementing nontraditional teaching practices: using team activities in and out of class, giving writing assignments, and using e-mail and the World Wide Web as sources of information, among other methods. (We would speculate that these levels represent considerable gains over the five years that have elapsed since the SUCCEED Coalition was formed, but a survey was unfortunately not conducted at that time.) The respondents also believe that teaching is more important to them than it is to their colleagues and administrators, and that it counts for relatively little in the faculty incentive and reward system.

The responses vary noticeably from one institution to another, from one academic rank to another, and between male and female respondents. For example, the percentages of respondents giving required team assignments vary from a low of 35% at one institution to a high of 72% at another, and the ratings of importance attached by administrators to teaching varied from one institution to another by almost two points on a 10-point scale. Assistant professors are more likely than associate or full professors and female professors are more likely than male professors to use in-class group activities and

the World Wide Web in their teaching, and the assistant professors and female professors are more likely to believe that teaching is devalued in the faculty reward system.

While these results are interesting, they must be viewed with a measure of caution. Although the overall response rate of 35% is considered quite high in survey-based research, in all likelihood the respondents are not truly representative of the total faculty population. The respondents' student evaluations are well above the average ratings for their departments; professors who place a high priority on teaching are more likely to respond to a survey on teaching practices than are professors who place a higher priority on research; and professors who perceive that teaching is devalued on their campus might be more likely to respond than professors who are satisfied with the faculty reward system.

This survey is the first step in assessing the impact of coalition efforts on the climate for teaching at the eight SUCCEED campuses. The true significance of the results will only be known once similar data are obtained two and four years from now. We look forward to reporting these data at those times.

Introduction

This document reports the findings from the 1997–1998 survey of SUCCEED Coalition faculty members. The purpose of the survey was to provide baseline information to the SUCCEED Faculty Development Coalition Focus Team on the faculty's use of various instructional methods, their prior involvement in instructional development programs, and their perceptions about institutional support for teaching on their campuses. The survey asked respondents to answer questions about their teaching experiences and practices in four primary areas: prior involvement with teaching beyond classroom instruction, rated importance of teaching quality and innovation to themselves and colleagues, frequency of use of various teaching techniques for undergraduate instruction, and involvement in teaching improvement programs on campus. In addition, respondents were asked to characterize student ratings of their teaching and teaching in their departments. A copy of the survey instrument appears in the Appendix to this document. This report summarizes responses to each of the questions and itemizes significant differences among groups (sex, rank, position, years of service, SUCCEED involvement, prior attendance at teaching seminars, and Carnegie classification).

The survey was designed by Dr. Rebecca Brent and Dr. Richard Felder, Codirectors of the SUCCEED Faculty Development Coalition Focus Team, with assistance from Dr. Catherine Brawner of Research Triangle Educational Consultants, a member of the SUCCEED Assessment and Evaluation Coalition Service Team. It was administered by electronic mail or via the World Wide Web to all coalition engineering faculty members with the assistance of Dr. Thomas Miller, the SUCCEED Technology-Based Curriculum Delivery Focus Team representative at North Carolina State University. The analysis of the data was performed by Dr. Brawner with assistance from Dr. Rodney Allen of COMP-AID.

Survey Methodology

Faculty Development team representatives from each SUCCEED campus were asked to provide complete lists of engineering faculty members. Surveys were sent only to faculty members with e-mail addresses. There were 1578 e-mail addresses provided, which included some invalid addresses, duplicates, and addresses for former faculty members and non-faculty members such as administrative assistants. E-mail messages that were returned as undeliverable were resent if there was a correctable error in the original address or if a campus directory search yielded a valid address. The total number of faculty members (with and without e-mail addresses) reported by the institutions as of the spring of 1998 was 1572.

The survey first was pilot-tested at NC A&T. Surveys were sent by electronic mail to 81 e-mail addresses in November 1997, one of which was determined to be a duplicate. Twenty-five faculty members responded, for a 31.2% response rate. Minor modifications were made to the wording of a few questions and the revised survey was administered at Virginia Tech and FAMU-FSU to determine whether delivery of the

survey via e-mail or the Web would yield similar response rates. In the e-mail version, the recipient could select "Reply," fill in the survey, and send it back directly to the survey administrator. The Web version sent an e-mail message giving the recipient a unique identification number and instructions to access a Web site containing the survey, fill in the survey on-line, and submit it. The advantage of the Web-based survey is that a great deal of the tabulation, preliminary analysis, and record-keeping could be done automatically, where the e-mail survey required a more complex data entry process. Faculty members at the two schools were randomly assigned to receive either the e-mail or Web-based survey. The e-mail administration yielded a much higher response rate (27% vs. 16% at Virginia Tech and 40% vs. 17% at FAMU-FSU) and therefore was used for the first administration of the survey at the remaining five schools and for the follow-up administration at all eight schools.

The first administration of the survey was sent to NC A&T in November of 1997, to Virginia Tech and FAMU-FSU in December, to the University of Florida, Clemson, NC State, and UNC-Charlotte in January 1998, and to Georgia Tech in February 1998. The first administration of the survey at Georgia Tech required all replies to go to an intermediary at the Georgia Tech campus, compromising confidentiality and possibly contributing to the low response rate (on the order of 9%). The second administration of the survey was sent in late March directly by Dr. Brawner to faculty members at all eight campuses without requiring the use of an intermediary at any campus. Most of those who responded to the first administration of the survey were deleted from the mailing list for the second administration.

Description of Sample

In all, 528 surveys were returned of which 503 were valid and usable. Blank surveys, duplicates, and responses from outside of the population of interest account for the difference. Table 1 shows the valid responses by institution.

Table 1. Survey responses by survey administration and institution

		1st survey		2nd survey		
Name	N	E-mail	Web	E-mail	Total	%
Clemson	141	48		16	64	45.4
FAMU-FSU	72	14	6	9	29	40.3
Georgia Tech	321	29		55	84	26.2
NC State	199	50		18	68	34.2
NC A&T	81	25		2	27	33.3
UNC-Charlotte	93	24		10	34	36.6
University of Florida	353	78		20	98	27.8
Virginia Tech	289	38	23	38	99	34.3
Total	1549	306	29	168	503	32.3

Note: the total figures have been adjusted for undeliverable and duplicate addresses where possible

Duplicate responses were determined by e-mail addresses and, if available, the real names of the respondents. In cases of duplication, the first survey returned was used in the analysis and the second was discarded. Twenty-nine surveys were returned via the Web, 464 surveys were returned via e-mail, and 10 surveys were returned from faculty members who printed out the e-mail survey, filled it out by hand, and returned it via regular mail to the administrator.

Of the 488 respondents who indicated their sex, 50 or 10.2% were female and 89.8% were male. This distribution compares with a population that is 93.2% male and 6.8% female. The sample population thus overrepresents women and underrepresents men (χ^2 $(1, N = 488) = 9.39, p \leq 0.05$).

Roughly two-fifths of the sample (42.5%) indicated that they were full professors, one-third (32.1%) indicated that they were associate professors, two-fifths (19.4%) indicated that they were assistant professors and less than five percent indicated that they were "instructor/lecturer" or "other." Respondents who indicated that they were "other" and provided an answer that closely resembled one of the other choices were recoded to the appropriate response (e.g., a person who checked "other" and listed a named professorship was recoded as a professor). The sample population is representative of the underlying population of the three primary ranks of assistant professor, associate professor and full professor (χ^2 $(2, N = 494) = 1.96$, not significant).

Roughly three fourths (77%) of the respondents identified themselves as teaching/research faculty and 10% each indicated that they were administrators or teaching faculty. Less than 2% indicated that they were research faculty only. Just over a quarter (27%) of the respondents stated that they had been faculty members for more than 20 years, a third had 10 to 20 years of service, a fifth had five to ten years of service, and a fifth had less than five years experience. Given the reporting discrepancies of the participating schools, it is impossible to determine rigorously if these numbers are representative of the underlying population. However, based on available data, they appear to be consistent. All of the major engineering disciplines were represented in the sample in proportion to their numbers in the population (χ^2 $(7, N = 483) = 3.81$, not significant). (See Tables 2–4.)

Table 2. Rank by primary academic function

	Current Position											
	Teaching		Teaching Research		Research		Admin.		Other		Total	
Rank	N	%	N	%	N	%	N	%	N	%	N	%
Instr/Lecturer	10	63	6	38	0	0	0	0	0	0	16	3
Assistant	4	4	88	92	2	2	1	1	1	1	96	19
Associate	14	9	138	87	3	2	3	2	1	<1	159	32
Professor	18	9	146	70	2	1	43	21	1	<1	210	43
Other	3	23	2	15	2	15	6	46	0	0	13	3
Total	**49**	**10**	**380**	**77**	**9**	**2**	**53**	**11**	**3**	**<1**	**494**	**100**

Table 3. Rank by years of service

	Years of Service											
	0-2		2-5		5-10		10-20		> 20		Total	
Rank	N	%	N	%	N	%	N	%	N	%	N	%
Instr/Lecturer	1	6	5	29	6	35	3	18	2	12	17	3
Assistant	31	32	43	44	14	14	9	9	0	0	97	20
Associate	2	1	6	4	64	40	61	38	26	16	159	32
Professor	4	2	5	2	15	7	86	40	103	48	213	43
Other	3	25	1	8	1	8	3	25	4	33	12	2
Total	**41**	**8**	**60**	**12**	**100**	**20**	**162**	**33**	**135**	**27**	**498**	**100**

Table 4. Engineering discipline of respondents

Discipline	N	Survey %	Population %
Civil and Environmental	90	18.6	16.6
Chemical	37	7.7	6.6
Ceramics and Materials	34	7.0	7.0
Computer Science*	28	5.8	5.3
Electrical and Computer	90	17.9	20.8
Industrial and Systems	40	8.3	8.8
Mechanical, Aerospace, and Ocean**	107	22.2	22.0
All others***	57	11.8	12.9

Notes: *Computer science is not in the college of engineering at all schools. These numbers only represent computer science faculty who are in the college of engineering.

** Ocean engineering is included in this category when it is combined with aerospace engineering in the same department.

*** Includes Agricultural, Architectural, Biological/Agricultural, Bioengineering, Coastal/Oceanographic, Engineering Fundamentals, College of Engineering, Engineering Science and Mechanics, Engineering Technology, Mining and Minerals, Nuclear, and Textiles.

Methodology

The data obtained from the SUCCEED Faculty Development Survey were analyzed using standard statistical methods and practices. Responses were classified according to the respondents' sex, rank, position, years of service, level of involvement with SUCCEED, prior attendance at teaching seminars, and the Carnegie classification of the respondents' schools[1] and were tested to determine if there were any significant

[1]Carnegie Foundation for the Advancement of Teaching, 1998: See http://www.carnegiefoundation.org/cihe/cihe-dc.htm. Clemson, Florida, Florida State, Georgia Tech, NC State, and Virginia Tech are classified by the Carnegie Foundation for the Advancement of Teaching as Research institutions while FAMU, NC A&T, and UNC-Charlotte are classified as Masters institutions. For the purposes of this report, the FAMU-FSU College of Engineering was classified as a Masters institution.

differences in response within these categories. The data were analyzed using SPSS® for Windows™ version 8.0, a popular statistical package for social science research. Responses to scaled questions were analyzed using either t-tests or one-way analysis of variance (ANOVA) with the Bonferroni multiple comparisons procedure used to compare mean responses among the various groups. Chi-squared analysis and the Mann-Whitney U or Kruskal-Wallis H tests were used for categorical data. For the purpose of determining significant differences, alpha was set at 0.05 for all tests of significance.

To identify significant differences among groups, it was necessary to eliminate certain low-incidence groups from further analysis or to combine categories. Taking this step improves the likelihood that significant differences found among the groups are meaningful rather than simply a statistical artifice. The following adjustments to the data were made:

- Within the rank category, only assistant professor, associate professor, and professor categories were investigated. This decision eliminated 39 people who identified themselves as either "instructor/lecturer" or "other."
- Within the current position category, only teaching, teaching/research, and administration categories were investigated. This decision eliminated 12 people who identified their position as "research only" or "other."
- Within the number of teaching seminars in the 1996-1997 academic year category, the nine people who responded that they had attended more than 5 seminars were combined with the 35 who indicated that they had attended 3-5 seminars to create a "more than 3" category.
- Within the level of involvement in SUCCEED category, the 4 people who indicated that their involvement level was "other" were eliminated.

Survey Responses

Prior involvement in teaching beyond classroom instruction

Respondents were asked how many teaching seminars, workshops and conferences they had attended in their careers and how many they had attended during the 1996-1997 academic year. (See Table 5.) Eighty five percent of the respondents reported that they had attended at least one teaching seminar in their careers with over 13% indicating that they had attended at least ten. More than half reported that they had attended at least one teaching seminar in the previous academic year.

Respondents were also asked about their level of involvement in SUCCEED-sponsored activities. (See Table 6.) Nearly two-thirds of the respondents indicated that they either did not know anything about SUCCEED or that they had heard of it but were not involved with it, whereas about one-fifth of the respondents reported that they had been actively involved with the Coalition. The latter results may overrepresent the percentage of actively-involved faculty, which has generally been estimated at around

10% of the faculty at Coalition institutions. It is certainly not surprising that people who had been actively involved in SUCCEED were more likely to respond; however, this overrepresentation should not affect observed differences between active respondents and their less active counterparts.

Table 5. Attendance at teaching seminars, workshops or conferences

# of teaching seminars	Career		# of teaching seminars	1996-1997	
	N	%		N	%
None	73	14.7	None	220	44.4
1-2	129	25.6	1	151	30.4
3-5	148	29.4	2	81	16.3
6-10	81	16.1	3-5	35	7.1
>10	66	13.1	>5	9	1.8
Total	**497**	**100**	**Total**	**496**	**100**
Since you began teaching, about how many seminars, workshops, conferences, etc., have you attended that were specifically related to teaching?			From September 1996 through August 1997, how many seminars, workshops, conferences, etc., did you attend that were specifically related to teaching?		

Table 6. Level of involvement in SUCCEED programs

	N	%
Don't know anything about the SUCCEED coalition	41	8.2
Heard of the Coalition but haven't been involved with it	281	56.3
Attended a Coalition program but have not actively participated	67	13.4
Been actively involved in a Coalition project	72	14.4
Been a Coalition project leader	34	6.8
Other	4	0.8
Total	**499**	**100**

Rated importance of teaching quality and innovation

Respondents were asked to rate, on a scale of 0 to 10 with 0 meaning "not at all important" and 10 meaning "extremely important," the importance of teaching quality to themselves, their department faculty colleagues, their department head, their dean, and their chancellor/president and provost. They were also asked to rate on the same scale the importance of teaching quality in their institution's faculty incentive and reward system (recognition, raises, tenure, promotion) and the importance of teaching innovation (testing new methods, writing textbooks or instructional software) in their institution's faculty incentive and reward system. (See Tables 7–9.)

As Table 7 shows, respondents rated the importance of teaching quality to themselves as very high and the importance to their colleagues and administrators significantly lower. The importance of teaching quality and innovation in the faculty incentive and reward system was rated very low. All of the means are significantly different from each other using a paired samples t-test ($p \leq 0.005$) with the exception of the dean-chancellor/provost pair.

Table 7. Rated importance of teaching quality and innovation

Importance of:	To	Mean	Std. Dev.	N
Quality	Respondent	9.26	1.02	500
Quality	Colleagues	7.34	1.68	490
Quality	Dept. Head	7.69	2.14	489
Quality	Dean	6.98	2.26	483
Quality	Chancellor/Provost	7.00	2.15	474
Quality	Reward System	4.74	2.24	487
Innovation	Reward System	4.50	2.34	481

Men and women differed significantly when rating the importance of teaching quality to their colleagues, their department head, and their dean. (See Table 8.) In all cases, the women's mean ratings were significantly lower than the men's.

Table 8. Importance of teaching quality by sex of respondents

Importance of teaching quality to:	Female			Male				
	M	SD	N	M	SD	N	F*	p
Colleagues	6.62	1.97	47	7.41	1.62	429	9.62	.002
Dept. Head	7.13	2.37	47	7.78	2.09	428	3.98	.047
Dean	6.27	2.22	45	7.07	2.24	425	5.27	.022

* The degrees of freedom for the F statistic are 1 and $N_F + N_M - 1$

Significant differences exist in the mean responses given by respondents in different academic positions. (See Table 9.) The rated importance of teaching quality to the respondent was significantly higher among those identifying themselves as teaching faculty than among those who identify themselves as engaging in both teaching and research. The importance of teaching to the department head was rated significantly higher by administrators (including department heads) than by teaching/research faculty, and administrators similarly rated the importance of teaching quality to their dean significantly higher than did teaching faculty or teaching/research faculty. Those who identified themselves as teaching faculty rated the importance of teaching quality in the academic reward system significantly lower than did those who identified themselves as administrators.

Table 9. Importance of teaching quality by primary academic function

Importance of Teaching Quality to:	Position														
	Teaching			Teaching/Research			Research			Administration			Other		
	M	SD	N	M	SD	N	M	SD	N	M	SD	N	M	SD	N
You	9.76_{a}	0.52	49	9.20_{b}	1.06	378	9.33_{ab}	.71	9	9.28_{ab}	0.97	53	8.67_{ab}	1.15	3
Dept. Head	7.60_{ab}	2.29	48	7.53_{a}	2.12	373	9.14_{ab}	1.07	7	8.72_{b}	1.69	50	7.33_{ab}	3.06	3
Dean	6.43_{a}	2.62	46	6.90_{a}	2.18	367	8.29_{ab}	1.70	7	7.96_{b}	2.15	52	5.67_{ab}	3.06	3
Reward System	3.98_{a}	1.99	48	4.74_{ab}	2.21	369	5.62_{ab}	3.02	8	5.44_{b}	2.38	52	3.33_{ab}	1.53	3

Note: Means in the same row that do not share a subscript are significantly different at the $p < .05$ level using the Bonferroni test.

17

Frequency of use of instructor-centered teaching techniques

Respondents were asked to "Think of a typical undergraduate lecture course that you teach (not a lab or design course). How frequently do you use the following teaching techniques?" The techniques may be subdivided into instructor-centered methods, in-class activities, assignments, communicating with students, and preparing and soliciting feedback from students. This section will report the findings related to the first category: lecturing for most of a class session, showing overhead transparencies, using live or multimedia demonstrations, and addressing questions to the class as a whole. Significant differences among groups will be reported as well.

Nearly all of the respondents reported lecturing for most of a class period at least once a week, with two-thirds doing so every class period. More than half showed overheads at least weekly. Nearly all (97%) directed questions to the entire class at least once a week, with 84% doing so every time they met. Roughly half used in-class demonstrations at least once a month. (See Table 10.)

Table 10. Use of instructor-centered teaching techniques

	Lecture		Overheads		Demos		Questions	
	N	%	N	%	N	%	N	%
Every class	308	65.8	116	24.7	16	3.4	391	83.9
Once/week	137	29.3	154	32.8	78	16.8	60	12.9
Once/month	13	2.6	96	20.5	156	33.5	10	2.1
Once/semester	5	1.0	70	14.9	151	32.5	3	0.6
Never	5	1.0	33	7.0	64	13.8	2	0.4
Total	**468**	**100**	**469**	**100**	**465**	**100**	**466**	**100**

Although over 85% of each group of respondents lectured at least once a week, faculty members who attended teaching seminars, workshops and conferences during the 1996-1997 academic year were less likely to lecture every class period than those who did not. [K-W H (3, N = 467) = 10.05, p = .018.] Similarly, those who reported attending numerous teaching seminars, workshops and conferences in their careers were far less likely to lecture every class period than their counterparts who had never attended a teaching seminar. [K-W H (4, N = 467) = 23.56, p < .0005.] (See Tables 11 and 12.)

Table 11. Lecture frequency by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Every class	146	72.3	92	63.9	44	56.4	25	58.1
Once/week	51	25.2	47	32.6	27	34.6	12	27.9
Once/month	3	1.5	4	2.8	4	5.1	2	4.7
Once/semester	1	0.5	0.0	0.0	2	2.6	2	4.7
Never	1	0.5	1	0.7	1	1.3	2	4.7
Total	**202**	**100**	**144**	**100**	**78**	**100**	**43**	**100**

Table 12. Lecture frequency by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
Every class	57	85.1	84	72.4	87	60.4	48	62.3	31	49.2
Once/week	8	11.9	28	24.1	52	36.1	24	31.2	25	39.7
Once/month	2	3.0	3	2.6	2	1.4	3	3.9	3	4.8
Once/semester	0	0.0	0	0.0	2	1.4	2	2.6	1	1.6
Never	0	0.0	1	0.9	1	0.7	0	0.0	3	4.8
Total	**67**	**100**	**116**	**100**	**144**	**100**	**77**	**100**	**63**	**100**

Those who had never heard of SUCCEED and those who reported that they had heard of SUCCEED but weren't involved in it were more likely to report that they lecture every class period than those who had been involved in SUCCEED in some way. [K-W $H\,(4, N = 462) = 21.26, p < .0005$]. (See Table 13.)

Table 13. Lecture frequency by level of involvement in SUCCEED

	Don't know anything		Heard, not involved		Attended, not active		Actively involved		Project leader	
	N	%	N	%	N	%	N	%	N	%
Every class	27	73.0	191	73.2	35	55.6	37	52.9	15	48.4
Once/week	9	24.3	63	24.1	22	34.9	27	38.6	13	41.9
Once/month	1	2.7	3	1.1	4	6.3	3	4.3	2	6.5
Once/semester	0	0.0	2	0.8	0	0.0	2	2.9	1	3.2
Never	0	0.0	2	0.8	2	3.2	1	1.4	0	0.0
Total	**37**	**100**	**261**	**100**	**63**	**100**	**70**	**100**	**31**	**100**

Those who classified themselves as teaching/research faculty were more likely to lecture every class period than those who classified themselves as either teaching faculty or administrators. [K-W $H\,(2, N = 453) = 6.43, p = .04$.] (See Table 14.)

Table 14. Lecture frequency by primary academic function

	Teaching		Teaching/Research		Administration	
	N	%	N	%	N	%
Every class	27	55.1	249	69.0	23	53.5
Once/week	19	38.8	95	36.3	18	41.9
Once/month	0	0.0	11	3.0	2	4.7
Once/semester	3	6.1	1	0.3	0	0.0
Never	0	0.0	5	1.4	0	0.0
Total	**49**	**100**	**361**	**100**	**43**	**100**

Faculty members at Masters institutions were less likely to report that they lecture every class period than their counterparts at the Research institutions. [M-W $U = 13{,}854$, $p = .015$.] (See Table 15.)

Table 15. Lecture frequency by Carnegie Classification

	Research		Masters	
	N	%	N	%
Every class	262	68.2	46	54.8
Once/week	106	27.6	31	36.9
Once/month	7	1.8	6	7.1
Once/semester	5	1.3	0	0.0
Never	4	1.0	1	1.2
Total	**384**	**100**	**84**	**100**

Women were more likely to report showing overheads every class period or at least once a week than were men. [M-W $U = 7653, p = .011$.] (See Table 16.)

Table 16. Frequency of showing overheads by respondents' sex

	Female		Male	
	N	%	N	%
Every class	15	31.3	99	24.3
Once/week	23	47.9	125	30.6
Once/month	4	8.3	90	22.1
Once/semester	5	10.4	63	15.4
Never	1	2.1	31	7.6
Total	**48**	**100**	**408**	**100**

Respondents who attended one or more teaching seminars in the past year were somewhat more likely use demonstrations in class at least once a week and less likely to never use them. [K-W $H\ (2, N = 468) = 7.49$, $p = .024$.] They were more likely to use demonstrations at least once a week if they had attended at least six teaching seminars in their careers and much less likely never to use them if they had been to any teaching seminars. [K-W $H\ (4, N = 464) = 22.56, p < .0005$.] (See Tables 17 and 18.)

Table 17. Frequency of use of demonstrations in class by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Every class	54	26.5	39	27.1	14	17.9	9	21.4
Once/week	58	28.4	47	32.6	33	42.3	16	38.1
Once/month	38	18.6	28	19.4	20	25.6	9	21.4
Once/semester	33	16.2	24	16.7	8	10.3	5	11.9
Never	21	10.3	6	4.2	3	3.8	3	7.1
Total	**204**	**100**	**144**	**100**	**78**	**100**	**42**	**100**

Table 18. Frequency of use of demonstrations in class by number of teaching seminars attended in career

	None		1-2		3-5		6-10		≥ 10	
	N	%	N	%	N	%	N	%	N	%
Every class	2	3.0	3	2.6	2	1.4	6	7.8	3	4.9
Once/week	8	12.1	17	14.7	21	14.6	13	16.9	19	31.1
Once/month	14	21.2	37	31.9	61	42.4	20	26.0	24	39.3
Once/semester	25	37.9	43	37.1	43	29.9	28	36.4	11	18.0
Never	17	25.8	16	13.8	17	11.8	10	13.0	4	6.6
Total	**66**	**100**	**116**	**100**	**144**	**100**	**77**	**100**	**61**	**100**

In-Class Activities

The next responses relate to in-class activities: putting students into pairs or small groups for brief intervals during class or for most of a class period to answer questions or solve problems, and having students work on computer terminals in class.

Fifty-eight percent of the respondents put students in groups for brief intervals at least once a semester, although few (3.4%) reported doing so every class period. Even fewer respondents (40%) put students in groups for most of a class period. Most respondents (81%) reported that they never have students use computers during class. (See Table 19.)

Table 19. In-class activities

	Groups/brief		Groups/most		Computers	
	N	%	N	%	N	%
Every class	16	3.4	6	1.3	5	1.1
Once/week	64	13.8	30	6.4	18	3.8
Once/month	108	23.3	55	11.8	15	3.2
Once/semester	81	17.5	97	20.8	52	11.1
Never	195	42.0	278	59.7	378	80.8
Total	**464**	**100**	**466**	**100**	**468**	**100**

Assistant professors were most likely to put students in groups for brief intervals at some point during the semester, with two-thirds of them doing so compared to 59% of the associate professors and 53% of the full professors. [K-W H (2, N = 436) = 9.94, p = .007.] (See Table 20.)

Table 20. Put students in groups for brief intervals by rank

	Assistant		Associate		Professor	
	N	%	N	%	N	%
Every class	3	3.4	6	4.0	6	3.0
Once/week	19	21.8	21	13.9	21	10.6
Once/month	25	28.7	38	25.2	37	18.7
Once/semester	12	13.8	24	15.9	41	20.7
Never	28	32.2	62	41.1	93	47.0
Total	**87**	**100**	**151**	**100**	**198**	**100**

The more teaching seminars faculty members reported attending in the past year, the more likely they were to put students in groups for brief intervals. Eighty-eight percent of those who attended three or more seminars in the past year put students in groups at least once during the semester compared with 74% who attended two seminars, 57% of those who attended one seminar and 47% of those who reported attending no seminars, workshops or conferences. [K-W H (3, N = 463) = 39.51, p < .0005.] Those who attended more teaching seminars in their careers were more likely to report putting students in groups for brief intervals, with 80% of those who attended more than ten seminars reporting that they did so compared with only 32% of those who never attended one. [K-W H (4, N = 463) = 41.54, p < .0005.] (See Tables 21 and 22.)

Faculty members who have been a part of SUCCEED activities, either actively or simply as attendees at a SUCCEED-sponsored event, were more likely to put students into groups for brief intervals during class than those who had never participated. [K-W H (4, N = 458) = 43.37, p < .0005.] (See Table 23.) Women (75%) were more likely than men (57%) to report putting students into groups for brief intervals during class.. [M-W U = 7,688, p = .011.] (See Table 24.) Faculty members at Masters institutions (67%) were more likely than their counterparts at research institutions (56%) to report

putting students in groups for brief intervals at some point during the semester. [M-W U = 13,854, p = .015.] (See Table 25.)

Table 21. Put students in groups for brief intervals by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Every class	5	2.5	4	2.8	3	3.9	4	9.8
Once/week	20	9.9	14	9.9	19	24.7	11	26.8
Once/month	36	17.7	40	28.2	19	24.7	13	31.7
Once/semester	34	16.7	23	16.2	16	20.8	8	19.5
Never	108	53.2	61	43.0	20	26.0	5	12.2
Total	**203**	**100**	**142**	**100**	77	**100**	**41**	**100**

Table 22. Put students in groups for brief intervals by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
Every class	0	0.0	6	5.1	2	1.4	3	3.9	5	8.2
Once/week	4	6.1	15	12.8	19	13.2	9	11.8	17	27.9
Once/month	7	10.6	18	15.4	43	29.9	27	15.5	13	21.3
Once/semester	10	15.2	16	13.7	29	21.1	12	15.8	14	23.0
Never	45	68.2	62	53.0	51	35.4	25	32.9	12	19.7
Total	**66**	**100**	**117**	**100**	**144**	**100**	**76**	**100**	**61**	**100**

Table 23. Put students in groups for brief intervals by level of involvement in SUCCEED

	Don't know anything		Heard, not involved		Attended, not active		Actively involved		Project leader	
	N	%	N	%	N	%	N	%	N	%
Every class	0	0.0	7	2.7	4	6.3	4	5.7	1	3.2
Once/week	1	2.8	24	9.3	12	18.8	16	22.9	9	29.0
Once/month	7	19.4	51	19.8	17	26.6	24	34.3	8	25.8
Once/semester	10	27.8	40	15.6	16	25.0	11	15.7	4	12.9
Never	18	50.0	135	52.5	15	23.4	15	21.4	9	29.0
Total	**36**	**100**	**257**	**100**	**64**	**100**	**70**	**100**	**31**	**100**

Table 24. Put students in groups for brief intervals by sex of respondents

	Female		Male	
	N	%	N	%
Every class	0	0.0	16	4.0
Once/week	11	22.9	52	12.9
Once/month	17	35.4	88	21.8
Once/semester	8	16.7	72	17.9
Never	12	25.0	175	43.4
Total	**48**	**100**	**403**	**100**

Table 25. Put students in groups for brief intervals by Carnegie classification

	Research		Masters	
	N	%	N	%
Every class	11	2.9	5	6.0
Once/week	48	12.6	16	19.0
Once/month	86	22.6	22	26.2
Once/semester	68	17.9	13	15.5
Never	167	43.9	28	33.3
Total	**380**	**100**	**84**	**100**

The more teaching seminars faculty members reported attending, the more likely they were to report putting students in groups for most of the class period at some point during the semester. Sixty-one percent of those who attended three or more seminars in the past year put students in groups at least once during the semester compared with 52% who attended two seminars, 44% of those who attended one seminar, and 30% of those who reported attending no seminars, workshops or conferences. [K-W H (3, N = 465) = 20.98, $p < .0005$.] (See Table 26.) Similarly, 66% of those who reported attending more than ten teaching seminars, workshops or conferences in their careers reported that they put students in groups for most of class at least once during the semester, compared with about 40% of those who had attended one to ten seminars and 18% of those who had attended no teaching seminars in their careers [K-W H (4, N = 466) = 29.81, $p < .0005$.] (See Table 27.)

At least 45% of those who had been involved in SUCCEED, either by participating in one or more projects or by attending a SUCCEED-sponsored event, reported that they put students into groups for most of class, compared with less than 35% of those who had not heard of SUCCEED or participated in any SUCCEED sponsored activities [K-W H (4, N = 460) = 12.03, p =.017.] (See Table 28.) Women (56%) were more likely than men (39%) to report that they put students into groups for most of class at least once during the semester. Nearly 30% of the women did so at least once a month compared with only 19% of the men [M-W U = 8,078, p = .03.] (See Table 29.) Faculty members at Masters institutions (51%) were more likely than their

counterparts at research institutions (38%) to report putting students in groups for most of class at some point during the semester. [M-W $U = 13{,}773$, $p = .03$.] (See Table 30.)

Table 26. Put students in groups for most of class by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Every class	1	0.5	2	1.4	1	1.3	2	4.9
Once/week	10	4.9	8	5.6	9	11.7	3	7.3
Once/month	20	9.9	17	11.8	10	13.0	8	19.5
Once/semester	29	14.3	36	25.0	20	26.0	12	29.3
Never	143	70.4	81	56.3	37	48.1	16	39.0
Total	**203**	**100**	**144**	**100**	77	**100**	**41**	**100**

Table 27. Put students in groups for most of class by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
Every class	0	0.0	2	1.7	1	0.7	1	1.3	2	3.3
Once/week	2	3.0	9	7.7	7	4.8	3	3.9	9	14.8
Once/month	4	6.1	17	14.5	15	10.3	10	13.0	9	14.8
Once/semester	6	9.1	20	17.1	35	24.1	16	20.8	20	32.8
Never	54	81.8	69	59.0	87	60.0	47	61.0	21	34.4
Total	**66**	**100**	**117**	**100**	**145**	**100**	77	**100**	**61**	**100**

Table 28. Put students in groups for most of class by level of involvement in SUCCEED

	Don't know anything		Heard, not involved		Attended, not active		Actively involved		Project leader	
	N	%	N	%	N	%	N	%	N	%
Every class	0	0.0	2	0.8	1	1.6	3	4.3	0	0.0
Once/week	0	0.0	13	5.0	7	10.9	8	11.4	2	6.5
Once/month	7	19.4	26	10.0	6	9.4	10	14.3	6	19.4
Once/semester	7	19.4	48	18.5	18	28.1	15	21.4	6	19.4
Never	22	61.1	170	65.6	32	50.0	34	48.6	17	54.8
Total	**36**	**100**	**259**	**100**	**64**	**100**	**70**	**100**	**31**	**100**

Table 29. Put students in groups for most of class by sex of respondents

	Female		Male	
	N	%	N	%
Every class	0	0.0	6	1.5
Once/week	3	6.3	27	6.7
Once/month	11	22.9	42	10.4
Once/semester	13	27.1	83	20.5
Never	21	43.8	247	61.0
Total	**48**	**100**	**405**	**100**

Table 30. Put students in groups for most of class by Carnegie classification

	Research		Masters	
	N	%	N	%
Every class	4	1.0	2	2.4
Once/week	24	6.3	6	7.2
Once/month	41	10.7	14	16.9
Once/semester	77	20.1	20	24.1
Never	237	61.9	41	49.4
Total	**383**	**100**	**83**	**100**

Nearly a third of faculty members who attended three or more teaching seminars in the past year reported that their students worked on computer terminals in class, compared with about 20% of those who attended one or two seminars and 15% of those who did not attend any . [K-W H (3, N = 467) = 8.63, p = .035.] (See Table 31.) Similarly, faculty members who attended more than ten teaching seminars in their careers (34%) were more likely to have students working on computer terminals during class than their colleagues who attended one to ten seminars (about 18%) and their colleagues who have never attended one (10%). [K-W H (4, N = 467) = 13.15, p = .011.] (See Table 32.) Faculty members from Masters institutions were more likely (30%) to have their students working on computer terminals during class at least once a semester than were their colleagues at research institutions (17%). [M-W U = 13,674, p = .005.] (See Table 33.)

Table 31. Students work on computers in class by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Every class	0	0.0	2	1.4	1	1.3	2	4.7
Once/week	9	4.4	6	4.2	2	2.6	1	2.3
Once/month	5	2.5	5	3.5	3	3.9	2	4.7
Once/semester	17	8.3	17	11.8	8	10.5	10	23.3
Never	173	84.8	114	79.2	62	81.6	28	65.1
Total	**204**	**100**	**144**	**100**	**76**	**100**	**43**	**100**

Table 32. Students work on computer terminals during class by teaching seminars attended in career

	None		1-2		3-5		6-10		≥ 10	
	N	%	N	%	N	%	N	%	N	%
Every class	0	0.0	1	0.9	1	0.7	0	0.0	3	4.8
Once/week	1	1.5	6	5.1	4	2.8	3	3.9	4	6.5
Once/month	1	1.5	4	3.4	5	3.5	1	1.3	4	6.5
Once/semester	5	7.5	10	8.5	16	11.1	11	14.3	10	16.1
Never	60	89.6	96	82.1	118	81.9	62	80.5	41	66.1
Total	**67**	**100**	**117**	**100**	**144**	**100**	**77**	**100**	**62**	**100**

Table 33. Students work on computer terminals in class by Carnegie classification

	Research		Masters	
	N	%	N	%
Every class	5	1.3	0	0.0
Once/week	12	3.1	6	7.3
Once/month	10	2.6	5	6.1
Once/semester	38	9.8	14	17.1
Never	321	83.2	57	69.5
Total	**386**	**100**	**82**	**100**

Assignments

This section reports frequencies with which respondents assigned homework to individuals (as opposed to teams), gave students the option of working in teams to complete homework, required students to work in teams to complete homework, assigned at least one major team project, and gave writing assignments (exercises that required verbal explanations and not just calculations). (See Table 34.)

Just over half (55%) of the respondents gave students individual homework assignments weekly and only 7% never gave individual assignments. About a quarter (24%) gave students the option to do their homework in teams every week and about two-thirds allowed students the option of doing homework in teams at some time during the semester. About 10% required students to do weekly homework in teams and more than half (55%) never required students to work in teams. Most respondents (85%) required students to do a writing assignment during the semester, although only 7% required such assignments weekly. Three-fourths of the respondents required a major team project in some or all of the courses that they taught.

Table 34. Assignments

	Individual HW		Team option		Team required		Writing assignment	
	N	%	N	%	N	%	N	%
1-3 times/week	255	54.6	110	24.2	45	9.7	36	7.1
1-3 times/month	148	31.7	78	17.2	47	10.1	131	26.0
1-3 times/sem.	31	6.6	110	24.2	117	25.2	225	44.6
Never	33	7.1	156	34.4	256	55.1	73	14.5

	Assign one major team project	
	N	%
In every course I teach	111	23.8
In some, but not all, courses I teach	242	51.9
Never	113	24.2

Respondents who attended three or more teaching seminars in 1996-1997 were less likely (36%) to assign homework to individuals weekly than their counterparts who had attended fewer seminars (roughly 60%) or no seminars (52%) [K-W H (3, N = 466) = 9.53, p = .023.] (See Table 35.)

Table 35. Assign homework to individuals by number of teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
1-3 times/week	106	52.2	87	60.8	46	59.0	15	35.7
1-3 times/month	75	36.9	39	27.3	18	23.1	16	38.1
1-3 times/semester	5	2.5	9	6.3	10	12.8	7	16.7
Never	17	8.4	8	5.6	4	5.1	4	9.5
Total	**203**	**100**	**143**	**100**	**78**	**100**	**42**	**100**

About two-thirds of those respondents who had ever attended a teaching seminar in their careers allowed students the option of doing at least some of their homework in teams, compared with less than half of those who had never attended a teaching seminar in their careers. [K-W H (4, N = 453) = 10.05, p = .04.] (See Table 36.) Administrators (84%) were more likely to offer their students the option of doing homework in teams than their teaching (67%) or teaching/research (70%) counterparts. [K-W H (2, N = 440) = 6.43, p = .049.] (See Table 37.)

Table 36. Option to do homework in teams by teaching seminars attended in career

	None		1-2		3-5		6-10		≥ 10	
	N	%	N	%	N	%	N	%	N	%
1-3 times/week	10	15.2	33	28.9	30	21.6	20	26.7	16	27.1
1-3 times/month	10	15.2	19	16.7	23	16.5	12	16.0	14	23.7
1-3 times/semester	11	16.7	28	24.6	45	32.4	17	22.7	9	15.3
Never	35	53.0	34	29.8	41	29.5	26	34.7	20	33.9
Total	**66**	**100**	**114**	**100**	**139**	**100**	**75**	**100**	**59**	**100**

Table 37. Option to do homework in teams by primary academic function

	Teaching		Teaching/Research		Administration	
	N	%	N	%	N	%
1-3 times/week	18	37.5	76	21.8	11	25.0
1-3 times/month	6	12.5	60	17.2	11	25.0
1-3 times/semester	8	16.7	82	23.6	15	34.1
Never	16	33.3	130	29.5	7	15.9
Total	**48**	**100**	**348**	**100**	**44**	**100**

Faculty members who did not attend any teaching seminars in the past year were less likely to ever require students to work in groups to do their homework (32%) than those who attended any teaching seminars (45%–54%) [K-W H (3, N = 464) = 10.89, p = .012.] (See Table 38.) Similarly, faculty members who have never attended a teaching seminar in their careers were less likely (19%) to ever require students to work in groups than those who had attended at least one teaching seminar in their careers (42% – 56%). [K-W H (4, N = 464) = 22.63, p < .0005.] (See Tables 38 and 39.)

Table 38. Require teams for homework by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
1-3 times/week	17	8.5	13	9.1	8	10.3	7	16.7
1-3 times/month	16	8.0	16	11.2	7	9.0	8	19.0
1-3 times/semester	40	19.9	49	34.3	20	25.6	7	16.7
Never	128	63.7	65	45.5	43	55.1	20	47.6
Total	**201**	**100**	**143**	**100**	**78**	**100**	**42**	**100**

Table 39. Require teams for homework by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
1-3 times/week	2	3.0	14	12.2	13	9.1	7	9.1	9	14.5
1-3 times/month	1	1.5	14	12.2	12	8.4	11	14.3	9	14.5
1-3 times/semester	10	14.9	24	20.9	50	35.0	25	32.5	8	12.9
Never	54	80.6	63	54.8	68	47.6	34	44.2	36	58.1
Total	**67**	**100**	**115**	**100**	**143**	**100**	**77**	**100**	**62**	**100**

About 30% of those who reported participating in SUCCEED required students to work in teams to complete their homework at least monthly, compared with 24% of those who had never heard of SUCCEED and 13% of those who had heard of SUCCEED but were not involved in it. [K-W H (4, N = 459) = 27.48, p < .0005.] (See Table 40.)

Table 40. Require teams for homework by level of SUCCEED involvement

	Don't know anything		Heard, not involved		Attended, not active		Actively involved		Project leader	
	N	%	N	%	N	%	N	%	N	%
1-3 times/week	1	2.7	21	8.1	10	15.9	9	13.0	4	12.9
1-3 times/month	8	21.6	12	4.6	10	15.9	12	17.4	5	16.1
1-3 times/semester	10	27.0	58	22.4	17	27.0	22	31.9	8	25.8
Never	18	48.6	168	64.9	26	41.3	26	37.7	14	45.2
Total	**37**	**100**	**259**	**100**	**63**	**100**	**69**	**100**	**31**	**100**

Those who attended three or more teaching seminars in the past year were much more likely (43%) to assign a major team project in every course they teach than were those who had attended two (31%), one (23%), or no (18%) teaching seminars that year. [K-W H (3, N = 465) = 13.05, p = .005.] Similarly, the likelihood of faculty assigning a major team project in every course increased from a low of 17% for those who had never attended a teaching seminar in their careers to a high of 39% for those who had attended 10 or more. [K-W H (4, N = 465) = 12.94, p = .012.] (See Tables 41 and 42.)

Table 41. Assign a major team project by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
In every course I teach	36	17.8	33	22.9	24	31.2	18	42.9
In some, but not all, courses I teach	108	53.5	80	55.6	35	45.5	18	42.9
Never	58	28.7	31	21.5	18	23.4	6	14.3
Total	**202**	**100**	**144**	**100**	**77**	**100**	**42**	**100**

Table 42. Assign a major team project by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
In every course	11	16.7	27	23.1	30	20.8	19	25.0	24	38.7
In some courses	28	42.4	62	53.0	86	59.7	39	51.3	26	41.9
Never	27	40.9	28	23.9	28	19.4	18	23.7	12	19.4
Total	**66**	**100**	**117**	**100**	**144**	**100**	**76**	**100**	**62**	**100**

Teaching faculty (69%) were less likely than teaching/research faculty (75%) and administrators (84%) to assign major team projects. [K-W H (2, N = 451) = 8.31, p = .016.] (See Table 43.) Faculty members at Masters institutions were more likely (91%) to assign a major team project to their undergraduate students than were faculty members at research institutions (73%). [M-W U = 12,492, p = .001.] (See Table 44.)

Table 43. Assign a major team project by primary academic function

	Teaching		Teaching/Research		Administration	
	N	%	N	%	N	%
In every course I teach	6	12.2	83	23.1	17	39.5
In some courses I teach	28	57.1	187	52.1	19	44.2
Never	15	30.6	89	24.8	7	16.3
Total	**49**	**100**	**359**	**100**	**43**	**100**

Table 44. Assign a major team project by Carnegie classification

	Research		Masters	
	N	%	N	%
In every course I teach	86	22.4	25	30.5
In some, but not all, courses I teach	192	50.0	50	61.0
Never	106	27.6	7	8.5
Total	**384**	**100**	**82**	**100**

The more teaching seminars that faculty members attended in the past year, the more likely they were to give writing assignments at least monthly. Nearly all (95%) of those who attended at least three teaching seminars during the year gave a writing assignment at some point during the semester. [K-W H (3, N = 464) = 9.95, p = .019.] The number of respondents who never gave a writing assignment during the semester varied from a high of 26% for those who never attended a teaching seminar in their careers to less than 20% for those who attended one or more. [K-W H (4, N = 464) = 10.77, p = .029.] (See Tables 45 and 46.)

Table 45. Give a writing assignment by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
1-3 times/week	10	5.0	9	6.3	12	15.8	5	11.6
1-3 times/month	54	26.9	43	29.9	19	25.0	15	34.9
1-3 times/semester	95	47.3	74	51.4	35	46.1	21	48.8
Never	42	20.9	18	12.5	10	13.2	2	4.7
Total	**201**	**100**	**144**	**100**	**76**	**100**	**43**	**100**

Table 46. Give a writing assignment by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
1-3 times/week	5	7.6	6	5.2	8	5.6	7	9.1	9	14.5
1-3 times/month	19	28.8	33	28.4	38	26.6	16	20.8	25	40.3
1-3 times/semester	25	37.9	59	50.9	81	56.6	39	50.6	21	33.3
Never	17	25.8	18	15.5	16	11.2	15	19.5	7	11.3
Total	**66**	**100**	**116**	**100**	**143**	**100**	**77**	**100**	**62**	**100**

Communications

Table 47 summarizes faculty's use of electronic mail and the World Wide Web to communicate with students. Nearly two-thirds of respondents use electronic mail or the World Wide Web to communicate with students in their classes at some point in the semester, and about a quarter use each method weekly.

Table 47. Communication with students

	Use e-mail		Use WWW	
	N	%	N	%
At least once/week	122	24.6	136	27.6
Less than once/week, more than once/month	110	22.2	67	13.6
Once a month or less	90	18.2	105	21.3
Never	173	34.9	185	37.5

Faculty members who attended teaching seminars in the past academic year were more likely to use e-mail to communicate with their students than those who attended none of these activities. Roughly 76% of those who attended two or more teaching seminars used this communications medium, compared with 67% of those who attended one seminar and 57% of those who attended none. [K-W H (3, N = 492) = 16.07, p = .001.] Similarly, faculty members who had attended more than 10 teaching seminars, workshops and conferences in their careers were more likely than anyone else to use e-

mail to communicate with their classes at some point during the semester. [K-W H (4, N = 492) = 12.13, p = .016.] (See Tables 48 and 49.)

Table 48. Use e-mail to communicate with class by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
At least once/week	49	22.5	28	18.5	26	32.5	18	41.9
Less than once/week, more than once/month	42	19.3	37	24.5	21	26.3	10	23.3
Once a month or less	34	15.6	37	24.5	14	17.5	5	11.6
Never	93	42.7	49	32.5	19	23.8	10	23.3
Total	**218**	**100**	**151**	**100**	**80**	**100**	**43**	**100**

Table 49. Use e-mail to communicate with entire class by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
At least once/week	13	18.1	40	31.0	31	21.2	13	16.0	24	37.5
Less than once/week, more than once/month	20	27.8	22	17.1	30	20.5	21	25.9	17	26.6
Once a month or less	10	13.9	23	17.8	29	19.9	19	23.5	9	14.1
Never	29	40.3	44	34.1	56	38.4	28	34.6	14	21.9
Total	**72**	**100**	**129**	**100**	**146**	**100**	**81**	**100**	**64**	**100**

Assistant professors (73%) and associate professors (69%) were more likely than full professors (59%) to use e-mail to communicate with their classes. Roughly 32% of assistant professors did so weekly compared with 28% of associate professors and 19% of full professors. [K-W H (2, N = 466) = 10.40, p = .006.] (See Table 50.)

Table 50. Use e-mail to communicate with entire class by academic rank

	Assistant		Associate		Professor	
	N	%	N	%	N	%
At least once/week	30	31.6	44	27.7	40	18.9
Less than once/week, more than once/month	26	27.4	32	20.1	47	22.2
Once a month or less	13	13.7	34	21.4	37	17.5
Never	26	27.4	49	30.8	88	41.5
Total	**95**	**100**	**159**	**100**	**212**	**100**

Assistant professors (76%) were much more likely than associate professors (61%) or full professors (58%) to use the World Wide Web as a communications medium with their students. [K-W H (2, N = 463) = 10.60, p = .005.] (See Table 51.) Teaching/research faculty (65%) and administrators (60%) were more likely to use the Web to communicate with their classes at some point during the semester than teaching faculty (48%); however, teaching (33%) and teaching/research (30%) faculty were more likely to use the Web weekly than their administrative counterparts (8%). [K-W H (2, N = 473) = 6.045, p = .049.] (See Table 52.)

Table 51. Use World Wide Web to provide information to the entire class by academic rank

	Assistant		Associate		Professor	
	N	%	N	%	N	%
At least once/week	34	35.4	46	29.5	47	22.3
Less than once/week, more than once/month	16	16.7	22	14.1	26	12.3
Once a month or less	23	24.0	28	17.9	50	23.7
Never	23	24.0	60	38.5	88	41.7
Total	**96**	**100**	**156**	**100**	**211**	**100**

Table 52. Use World Wide Web to provide information to the entire class by primary academic function

	Teaching		Teaching/ Research		Administration	
	N	%	N	%	N	%
At least once/week	16	33.3	111	29.6	4	8.0
Less than once/week, more than once/month	0	0.0	56	14.9	10	20.0
Once a month or less	7	14.6	77	20.5	16	32.0
Never	25	52.1	131	34.9	20	40.0
Total	**48**	**100**	**375**	**100**	**50**	**100**

Writing objectives and soliciting feedback from students

This section summarizes how often faculty members give their students explicit indications of what they (the students) should be able to do to demonstrate their mastery of course material, and how often the faculty members ask the students for feedback on the course instruction.

Respondents were asked how often they write instructional objectives for their courses. Nearly four in ten said that they always do so, with an additional 20% responding that they usually do so. About 60% reported that they always or usually provide study guides to their students for tests and exams and more than a third always do so. (See Table 53.)

Table 53. Providing instructional objectives and study guides

	Instructional Objectives		Study guides for tests		Study guides for exams	
	N	%	N	%	N	%
Always	194	39.0	170	34.8	193	39.1
Usually	104	20.9	117	23.9	103	20.9
Sometimes	103	20.7	107	21.9	87	17.6
Never	96	19.3	95	19.4	110	22.3

There were no significant between-group differences in providing study guides for tests. The number of seminars attended in the past year did have a significant impact on whether respondents wrote instructional objectives for their courses [K-W H (3, N = 494) = 8.04, p = .045] as did the number of seminars attended throughout the respondent's career [K-W H (4, N = 494) = 13.08, p = .011]. (See Tables 54 and 55).

Table 54. Write instructional objectives by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Always	80	36.5	56	37.3	35	43.2	22	50.0
Usually	37	17.8	38	25.3	17	21.0	10	22.7
Sometimes	42	19.2	36	24.0	16	19.8	8	18.2
Never	58	26.5	20	13.3	13	16.0	4	9.1
Total	**219**	**100**	**150**	**100**	**81**	**100**	**44**	**100**

Table 55. Write instructional objectives by teaching seminars attended in career

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
Always	19	26.4	54	41.9	59	40.4	29	35.8	33	50.0
Usually	15	20.8	23	17.8	35	24.0	14	17.3	16	24.2
Sometimes	18	25.0	22	17.1	29	19.9	23	28.4	10	15.2
Never	20	27.8	30	23.3	23	15.8	15	18.5	7	10.6
Total	**72**	**100**	**129**	**100**	**146**	**100**	**81**	**100**	**66**	**100**

Although nearly all (98.8%) of the respondents solicited feedback at least once a semester, only 41% did so more often than that. Very few (4%) asked for feedback every class and an additional 10.7% did so at least once a week. (See Table 56.)

Table 56. Frequency of seeking student feedback

	N	%
Every Class	20	4.0
One or more times a week	53	10.7
One or more times a month	133	26.8
One or more times a semester	285	57.3
Never	6	1.2
Total	**497**	**100**

Those who attended two or more teaching seminars in the past year were more likely to solicit feedback from their students more than once during the semester (54%) than were those who only attended one teaching seminar (40%) or no seminars (35%). Those who attended no teaching seminars in the past year were less likely to solicit feedback at least once a week (6%) than those who attended one (14%), two (21%), or three or more seminars (23%) [K-W H (3, N = 494) = 13.91, p = .003]. (See Table 57).

Table 57. Soliciting feedback from students by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Every class	7	3.2	5	3.3	4	5.0	4	9.3
Once/week	18	3.2	16	10.6	13	16.3	6	14.0
Once/month	52	23.6	40	26.5	26	32.5	14	32.6
Once/semester	139	63.2	89	58.9	36	45.0	19	44.2
Never	4	1.8	1	0.7	1	1.3	0	0.0
Total	**220**	**100**	**151**	**100**	**80**	**100**	**43**	**100**

Faculty members at Masters institutions were more likely to solicit feedback from their students more than once a semester (51%) than were their colleagues at Research institutions (39%), with more than 20% at the Masters institutions doing so at least weekly compared with only 13% at the Research institutions [M-W U = 15,774, p = .029]. (See Table 58.)

Table 58. Soliciting feedback from students by Carnegie classification

	Research		Masters	
	N	%	N	%
Every class	13	3.2	7	7.9
Once/week	41	10.0	12	13.5
Once/month	107	26.2	26	29.2
Once/semester	242	59.3	43	48.3
Never	5	1.2	1	1.1
Total	**408**	**100**	**89**	**100**

Involvement in Teaching Improvement Programs

Nearly two-thirds (63.3%) of the respondents reported that there was a teaching center on their campus. Most of the rest (30.6%) indicated that they did not know. The few who said that there was not a teaching center on campus were spread out among seven of the eight schools but concentrated at one of them (12/29), which is reasonable because there was no teaching center at that one when the survey was conducted.

Faculty members were asked how often they had used faculty development resources on their campuses. Over half of the 339 people who responded to this question (54.9%) indicated that they had used these resources at least once. Of the 193 people who indicated that they had used faculty development resources at all, most (88.6%) indicated that they had attended a workshop or seminar. Fewer consulted or borrowed books (31.1%), worked individually with a teaching consultant (13.5%), or indicated that they had done something else (9.3%). (Note that respondents were asked to mark all responses that applied.) Within the "other" category, open-ended responses included being videotaped while teaching and receiving assistance in the use of technology in the classroom.

Faculty members who attended teaching seminars in the past year were more likely than those who did not to report that they used on-campus faculty development resources extensively or occasionally. Sixty-three percent of those who attended three or more teaching seminars and used these resources used them extensively or occasionally, compared with 57% of those who attended two seminars, 47% of those who attended one seminar and only 24% of those who did not attend any teaching seminars, workshops, or conferences. This result is not surprising in light of the fact that attending a teaching seminar on campus was one of the faculty development resources specified. [K-W H (3, $N = 335$) = 35.874, $p < .0005$.] (See Table 59.)

Table 59. Use of faculty development resources by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
Extensively	2	1.5	2	1.9	3	5.2	4	10.5
Occasionally	30	22.1	46	44.7	30	51.7	20	52.6
Once	20	14.7	15	14.6	10	17.2	3	7.9
Never	84	61.8	40	38.8	15	25.9	11	28.9
Total	**136**	**100**	**103**	**100**	**58**	**100**	**38**	**100**

Not surprisingly, use of faculty development resources also correlated with career attendance at seminars. Sixty four percent of those who had attended more than 10 seminars in their careers, 49% of those who attended between six and ten career teaching seminars and 52% of those who attended between three and five seminars reported using faculty development resources extensively or occasionally compared with 20% of those

who reported attending one or two teaching seminars in their careers and 17% of those who had never attended a teaching seminar, workshop, or conference [K-W H (4, N = 336) = 48.082, $p < .0005$.] (See Table 60.)

Table 60. Use of faculty development resources by career teaching seminars

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
Extensively	1	2.4	1	1.2	2	1.9	2	3.4	5	10.6
Occasionally	6	14.3	15	18.3	53	50.0	27	45.8	25	53.2
Once	2	4.8	17	20.7	14	13.2	8	13.6	7	14.9
Never	33	78.6	49	59.8	37	34.9	22	37.3	10	21.3
Total	**42**	**100**	**82**	**100**	**106**	**100**	**59**	**100**	**47**	**100**

Women were significantly more likely to use faculty development resources than were men, with two-thirds using them at least once compared with just over half of the men [M-W $U = 4725$, $p = .037$]. (See Table 61.)

Table 61 . Use of faculty development resources by sex of respondents

	Female		Male	
	N	%	N	%
Extensively	2	5.0	9	3.1
Occasionally	21	52.5	105	35.7
Once	4	10.0	42	14.4
Never	13	32.5	136	46.7
Total	**40**	**100**	**291**	**100**

Respondents were asked how often they discussed teaching techniques with colleagues and graduate students. More than half did so with colleagues at least once a month while less than three in ten did so with graduate students that often. (See Table 62.)

Table 62. Discussion of teaching techniques with colleagues and graduate students

	With colleagues		With Graduate Students	
	N	%	N	%
At least once a week	61	12.3	34	6.9
Less than once a week but more than once a month	203	40.8	106	21.6
Once a month or less	209	42.1	231	47.0
Never	24	4.8	77	15.7
Don't work with grad students	-	-	43	8.8
Total	**497**	**100**	**491**	**100**

The more teaching seminars respondents attended in the past year, the more likely they were to discuss teaching techniques with their colleagues on at least a monthly basis. Sixty-three percent of those who attended three or more seminars did so more than once a month, compared with 60% of those who attended two seminars, 55% of those who attended one seminar and 47% of those who did not attend any teaching seminars in the past year [K-W H (3, N = 493) = 8.283, p = .041]. (See Table 63.)

Table 63. Discussion of teaching techniques with colleagues by teaching seminars attended in past year

	None		1		2		3 or more	
	N	%	N	%	N	%	N	%
At least once a week	22	10.1	20	13.2	13	16.0	5	11.6
Less than once a week but more than once a month	80	36.7	63	41.7	36	44.4	22	51.2
Once a month or less	100	45.9	64	42.4	31	38.3	13	30.2
Never	16	7.3	4	2.6	1	1.2	3	7.0
Total	**218**	**100**	**151**	**100**	**81**	**100**	**43**	**100**

A similar pattern was observed in the relationship between discussing teaching techniques with colleagues and teaching seminars attended in career, with the percentages of those doing so more than once a month ranging from 67% for those who had attended ten or more seminars to 45% for those who had attended two or fewer. [K-W H (4, N = 493) = 13.416, p = .009.] (See Table 64.)

Table 64. Discussion of teaching techniques with colleagues by teaching seminars attended in career.

	None		1-2		3-5		6-10		> 10	
	N	%	N	%	N	%	N	%	N	%
At least once a week	3	4.2	17	13.2	17	11.7	12	14.8	11	16.7
Less than once a week but more than once a month	29	40.3	41	31.8	71	49.0	29	35.8	33	50.0
Once a month or less	32	44.4	64	49.6	54	37.2	39	48.1	17	25.8
Never	8	11.1	7	5.4	3	2.1	1	1.2	5	7.6
Total	72	100	129	100	145	100	81	100	66	100

Respondents who knew nothing about SUCCEED were less likely to engage in discussions of teaching with colleagues at least once a month than were respondents who knew about SUCCEED, but the frequency of discussion of teaching was relatively independent of the level of involvement with the Coalition. [K-W H (4, N = 491) = 9.489, p = .05.] (See Table 65.)

Table 65. Discussion of teaching techniques with colleagues by level of involvement in SUCCEED

	Know nothing		Heard, not involved		Attended, not active		Actively involved		Project leader	
	N	%	N	%	N	%	N	%	N	%
At least once a week	1	2.5	33	11.8	12	18.2	9	12.5	4	11.8
Less than once a week but more than once a month	16	40.0	106	38.0	30	45.5	35	48.6	13	38.2
Once a month or less	22	55.0	125	44.8	23	34.8	26	36.1	13	38.2
Never	1	2.5	15	5.4	1	1.5	2	2.8	4	11.8
Total	**40**	**100**	**279**	**100**	**66**	**100**	**72**	**100**	**34**	**100**

The likelihood of discussing teaching techniques with graduate students at least monthly was greater for teaching/research faculty (31%) than for teaching faculty (21%) or administrators (22%). Not surprisingly, teaching faculty were more likely to report that they did not work with graduate students (38%) than were either administrators (18%) or especially teaching/research faculty (4%). [K-W H (2, N = 472) = 20.844, p < .0005.] (See Table 66.)

Table 66. Discuss teaching techniques with graduate students by position

	Teaching		Teach/Research		Administration	
	N	%	N	%	N	%
At least once a week	4	8.3	27	7.2	2	3.9
Less than once a week but more than once a month	6	12.5	87	23.3	9	17.6
Once a month or less	12	25.0	184	29.3	25	49.0
Never	8	16.7	60	16.1	6	11.8
Don't work with grads	18	37.5	15	4.0	9	17.6
Total	**48**	**100**	**373**	**100**	**51**	**100**

Teaching Ratings

Faculty members were asked to rate on a scale of 0 to 10 how they would characterize student ratings of their teaching and student ratings of teaching in their department. On average, faculty members responded that the average student rating of their teaching was 7.92 and that of teaching in their department was 6.89. This difference is significant at the $p < .0005$ level (t (464) = 16.937).

There were no differences in self-reported student ratings among teaching faculty, teaching/research faculty, and administrators. However, teaching faculty characterized student ratings of teaching in their departments as being significantly lower than either teaching/research faculty (mean difference = .41, Std. Error = .161, p = .032) or administrators (mean difference = .58, Std. Error = .210, p = .018). (See Table 67.)

Table 67. Student ratings of faculty members' department by position

	M	SD	N
Teaching	6.50	1.19	46
Teaching/Research	6.91*	1.02	356
Administration	7.08*	.88	50

* Indicates that the mean is statistically different from the mean of teaching faculty at $p \leq .05$ level using the Bonferroni procedure.

Faculty members at Research institutions characterized student ratings of the teaching in their departments higher than did faculty members at Masters institutions (mean difference = .36, Std. Error = .16, t (450) = 2.233, p = .028; equal variances not assumed). (See Table 68.)

Table 68. Student ratings of faculty members' department by Carnegie classification

	M	SD	N
Research	6.96	.93	387
Masters	6.58	1.38	83

Inter-institutional Differences

Appendix B provides the answers to every question by institution. All identifying information about the schools other than their classification as Research or Masters institutions has been obscured to prevent inappropriate use of the data. Institutions BETA, THETA, ETA, ZETA, and OMEGA are Research institutions and institutions PHI, PI, and PSI are Masters institutions. Each institution has been provided with a copy of its own data under separate cover.

This section will highlight several noteworthy inter-institutional response variations. The differences were not subjected to tests of statistical significance as the purpose of this study is to provide information about the coalition as a whole rather than to compare member institutions. Also, although the sample of respondents represents the coalition as a whole with respect to faculty rank, department, and sex, the same cannot be said of the individual campuses. Therefore, comparisons made between institutions should be viewed with caution.

Respondent demographic information

Although the sample broadly represents the coalition at large with respect to faculty rank, only the respondents at Institutions BETA, THETA, and PHI were representative of their own populations in that regard. At Institution ETA (a research institution) only 1.5% of the respondents were assistant professors, a percentage far lower than the percentage of assistant professors on the faculty at this institution. Likewise, at institution ETA no

faculty members with fewer than five years of service returned the survey, compared with 20% for the coalition as a whole. The three Masters institutions had a larger percentage of their faculty members with five or fewer years of service responding (range 26-38%) than the research institutions (range 0-25%). Women faculty were more likely to return the survey than were men, however, there was again a wide variation among schools ranging from a low of 1.6% at ETA to a high of 17.3% at BETA.

The great majority of the respondents from each institution described their position as teaching/research faculty ranging from a low of 65.5% at PI to 85.2% at BETA. Both institutions PI (20.7%) and ETA (17.9%) had a large percentage of their respondents describe their position as administration (including department head), compared with a low of 4.9% of respondents at Institution BETA.

Prior involvement in teaching beyond classroom instruction

Many of the significant findings in this study are related to the number of teaching seminars that a faculty member has attended in his or her career as well as in the year preceding the survey. Among institutions, there is a wide variation in the number of career teaching seminars, workshops and conferences that faculty members have attended. Overall, 85% of faculty members reported that they had attended at least one of these seminars in their career and 30% had attended at least six. Institutions THETA and PHI, however, had over 96% of their faculty reporting that they had attended at least one seminar compared with institution ZETA where only 76% of faculty had attended any teaching seminars in their careers. Similarly, 42% of faculty at institution THETA reported attending at least six career teaching seminars compared with less than 30% at most of the other schools. In the 1996-1997 school year, 77% of the faculty members at THETA reported attending at least one teaching seminar compared with 41% at PI. Faculty members who reported attending more than three seminars during 1996-1997 ranged from a low of 3% at ETA to a high of 17% at PHI. Involvement in SUCCEED, either by attending a SUCCEED sponsored activity, being more actively involved, or being a project leader ranged from a low of 19% at BETA to a high of 59% at PHI.

Rated importance of teaching quality and innovation

Respondents were asked to rate on a scale of 0 to 10 with 0 meaning not at all important and 10 meaning very important the importance of teaching quality and innovation to themselves and others. This section will report the ranges of the mean scores with standard deviations in parenthesis. (See Table 69.)

Table 69. Rated importance of teaching quality and innovation

Importance of Teaching Quality to:	Mean	Institutional Low	Institutional High
Respondent	9.26 (1.02)	8.98 (1.27)	9.48 (0.80)
Colleagues	7.34 (1.68)	6.76 (2.32)	7.97 (1.26)
Department Head	7.69 (2.14)	6.66 (2.92)	8.32 (1.42)
Dean	6.98 (2.25)	6.52 (2.77)	7.74 (1.65)
President/Chancellor	7.00 (2.15)	6.32 (2.15)	7.77 (1.79)
Reward System	4.74 (2.24)	4.22 (1.89)	5.02 (2.18)
Innovation in Reward System	4.50 (2.34)	3.42 (2.34)	5.10 (2.20)

Frequency of use of instructor-centered teaching techniques

In general, most professors lectured for most of the class period every class or at least once a week with a range from 81% at PHI to 100% at PI and at least 93% everywhere else. There was a wider dispersion among schools in the reported weekly use of overhead transparencies in class, ranging from a low of 50% at PSI to a high of 72% at THETA. Fewer still made use of demonstrations weekly in class ranging from a low of 14% at ETA to a high of 25% at THETA. However, at institution PHI, 96% of faculty reported using demonstrations at least once during the semester compared with 80% at ETA. At least 92% of faculty members at all schools addressed questions to the class as a whole at least weekly.

In-class activities

Putting students into pairs or groups during class was done at least weekly by 33% of the faculty members at PHI compared with only 11% at BETA and 81% of the faculty members at PHI reported doing so at least once a semester compared with only 47% at BETA. A similar pattern was found when faculty members were asked how often they put students into groups for most of class, with 15% of those at PHI reporting that they did so at least weekly compared with 3.4% at PSI. Fifty six percent of the faculty members at PHI reported putting students into groups for most of class at least once a semester compared with a low of 35% at ZETA. The use of computer terminals in class at least once a semester ranged from a low of 11% at ETA to a high of 42% at PHI.

Assignments

Assigning weekly homework to individuals ranged from a high of 63% of faculty members at THETA to a low of 42% at ETA. Students were given the option to work in teams at least weekly to complete their homework by 33% of the faculty at PHI but only 16% of the faculty at ZETA. Seventy four percent of the faculty at PHI gave students the option of working in teams to complete homework at least once during the semester compared with 58% of the faculty members at BETA. Similarly, 26% of the PHI faculty reported requiring students to work in teams to complete their weekly homework

assignments compared with only 2% at THETA, and 70% of PHI faculty reported that they require students to work in teams at some point during the semester compared with 35% of BETA's faculty. All of the PHI respondents assign at least one major team project in some or all of their courses compared with 62% of BETA's faculty. Nineteen percent of PI faculty required students to turn in a weekly writing assignment compared with none at PHI. Similarly, 96% of PI faculty required a writing assignment at some point during the semester compared with only 78% at ZETA.

Communications

Faculty members at OMEGA (37%) were more likely to report using email to communicate with their students on a weekly basis than were faculty members at ZETA (16%). Likewise 57% of ZETA faculty reported never using email to communicate with their students compared with 18% of PI faculty. Thirty six percent of ZETA faculty reported that they use the World Wide Web weekly to communicate with their students compared with 15% of PHI faculty. Similarly, 44% of both PHI and THETA faculty reported that they never use the Web to provide information to their students compared with less than 40% at each of the other institutions.

Writing objectives and soliciting feedback from students

Forty four percent of respondents at PI and PHI reported that they always write formal instructional objectives for their courses compared with 35% at ZETA. Only 4% of the respondents at PHI reported that they never do so compared with 28% at ETA. Students were given study guides for regular tests at least sometimes by 88% of PHI faculty but only 64% of PSI faculty. Nearly 44% of ZETA faculty reported that they always give students study guides for tests compared with 24% at PSI and THETA. Similarly, 52% of PHI faculty always give students study guides before the final exam compared with only 26% of THETA faculty. Nearly all faculty members reported that they solicit feedback from students at least once a semester, no doubt in the form of the perfunctory end-of-course evaluation. However, 56% of the PI faculty report soliciting feedback more often than once a semester compared with 30% at THETA.

Involvement in teaching improvement programs

Few respondents made extensive use of faculty development resources on their campuses. The percentage who reported that they never use such resources ranges from 33% at PSI to 75% at PHI. The vast majority of faculty members who did avail themselves of faculty development services attended workshops or seminars, with more than 85% doing so at every campus except PI where only 43% of respondents reported that they had attended a workshop or seminar. At that campus, 71% reported that they consulted or borrowed books, tapes, etc. compared with less than 40% at all of the other campuses. The percent of faculty members who reported that they discuss teaching techniques with their colleagues more than once a month varies from 32% at PHI to 73% at THETA. Thirty six percent of faculty members at ZETA reported discussing teaching techniques with their graduate students more than once a month compared with 7% at

PHI (although as a Masters institution, PHI faculty are less likely to work with graduate students at all).

Teaching ratings

Faculty members were asked how they would characterize student ratings of their teaching and how they would characterize average student ratings of teaching in their department with 0 meaning extremely poor and 10 meaning superior. The results were as follows (numbers in parentheses are standard deviations). (See Table 70.)

Table 70. Teaching ratings

	Mean	Low	High
Your ratings	7.92 (1.13)	7.50 (1.48)	8.26 (1.06)
Ratings of your department	6.89 (1.03)	6.11 (1.69)	7.06 (1.04)

Implications and Cautions

The objectives of the SUCCEED faculty development program include (1) promoting faculty adoption of non-traditional instructional methods and materials that have been proven effective by classroom research, and (2) improving institutional support for teaching at each of the coalition campuses. The purpose of the 1997-1998 SUCCEED Faculty Survey of Teaching Practices and Perceptions of Institutional Attitudes toward Teaching was to provide baseline data for monitoring progress toward meeting these objectives. Future surveys planned for the 1999-2000 and 2001-2002 academic years will round out this portion of the faculty development program assessment.

Attending teaching seminars is often associated with the use of non-traditional teaching practices, such as using team activities in and out of class, giving writing assignments, and using email and the World Wide Web for communicating with students. Although the association shown in this report is not necessarily causal, it appears that faculty members who are exposed to student-centered teaching techniques at workshops, seminars, and conferences are more likely to use these techniques in the classroom. An implication of these findings is that presentation and widespread promotion of workshops should continue to be a prominent component of the SUCCEED faculty development program.

Several of the survey results suggest that the instructional changes sought by the coalition may be more likely to come from younger faculty members than from those with greater levels of experience. Assistant professors were more likely to put students into groups during class and more likely to communicate with their students using the Web or email than were associate or full professors. These results highlight the importance of involving new faculty members in faculty development programs and of designing programs specifically for this faculty population.

based research, in all likelihood the responders are not truly representative of the total faculty population. Professors who place a high priority on teaching are more likely to respond to a survey on teaching practices than are professors who place a higher priority on research; and professors who perceive that teaching is devalued on their campus might be more likely to respond than professors who are satisfied with the faculty reward system. The responders' self-reported student evaluations are indeed well above the average ratings for their departments.

We also must be cautious not to equate the associations found here with causality. Some of the significant differences found between groups may reflect underlying structural factors rather than true attitude differences between the groups. For instance, teaching faculty were found to assign fewer team projects than other faculty members, which could reflect a difference in the types of classes these faculty members tend to teach rather than a disinclination to assign team projects.

This survey is the first step in assessing the impact of coalition efforts on the climate for teaching at the eight SUCCEED campuses. The true significance of the results will only be known once similar data are obtained two and four years from now.

Acknowledgment

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Appendix A

1997-1998 SUCCEED Coalition Faculty Survey

SUCCEED COALITION FACULTY QUESTIONNAIRE - FALL 1997

Please "reply" to this message and in the reply type your responses between the brackets.

What is your University? [ ]

What is your Department? [ ]

Type an X in the brackets corresponding to your response.

1. What is your rank?
   - [ ] a) Instructor/Lecturer
   - [ ] b) Assistant Professor
   - [ ] c) Associate Professor
   - [ ] d) Professor
   - [ ] e) Other (specify) [ ]

2. Which of these categories best describes your primary position?
   - [ ] a) Teaching faculty
   - [ ] b) Teaching/research faculty
   - [ ] c) Research faculty
   - [ ] d) Administration (including Department Head)
   - [ ] e) Other (specify) [ ]

3. How long have you been a faculty member?
   - [ ] a) 0-2 years
   - [ ] b) 2-5 years
   - [ ] c) 5-10 years
   - [ ] d) 10-20 years
   - [ ] e) More than 20 years

4. Since you began teaching, about how many seminars, workshops, conferences, etc., have you attended that were specifically related to teaching?
   - [ ] a) none
   - [ ] b) 1-2
   - [ ] c) 3-5
   - [ ] d) 6-10
   - [ ] e) More than 10

5. From September 1996 through August 1997, how many seminars, workshops, conferences, etc., did you attend that were specifically related to teaching?
   - [ ] a) none
   - [ ] b) 1
   - [ ] c) 2
   - [ ] d) 3-5
   - [ ] e) More than 5

6. What level of involvement have you had in SUCCEED Coalition programs?

[ ] a) I don't know anything about the SUCCEED Coalition.
[ ] b) I've heard of the Coalition but haven't been involved with it.
[ ] c) I've attended a Coalition program but have not actively participated.
[ ] d) I've been actively involved in a Coalition project.
[ ] e) I've been a Coalition project leader.
[ ] f) Other (specify) [ ]

* * *

Questions 7-12 refer to "teaching quality." By this we mean teaching that sets high but attainable standards for learning, enables most students being taught to meet or exceed those standards, and produces high levels of satisfaction and self-confidence in the students.

In Questions 7-13, rate the importance of teaching quality and innovation on a scale from 0 to 10, with 0 meaning "not at all important" and 10 meaning "extremely important."

7. How important is teaching quality to you?
[ ] (Choose a rating from 0-10.)

8. How important do you feel teaching quality is to most of your department faculty colleagues?
[ ] (Choose a rating from 0-10.)

9. How important do you feel teaching quality is to your department head?
[ ] (Choose a rating from 0-10.)

10. How important do you feel teaching quality is to your dean?
[ ] (Choose a rating from 0-10.)

11. How important do you feel teaching quality is to your chancellor/president and provost?
[ ] (Choose a rating from 0-10.)

12. How important is teaching quality in your institution's faculty incentive and reward system (recognition, raises, tenure, promotion)?
[ ] (Choose a rating from 0-10.)

13. How important is teaching innovation (testing new methods, writing textbooks or instructional software) play in your institution's faculty incentive and reward system (recognition, raises, tenure, promotion)?
[ ] (Choose a rating from 0-10.)

If you never teach undergraduate courses other than lab or design courses, please skip to Question 26.

* * *

Think of a typical undergraduate lecture course that you teach (not a lab or design course). How frequently do you use the following teaching techniques? Mark your response with an X in the brackets.

14. Lecture for most of the class period (Select the first response that applies)
    - [ ] a) Every class
    - [ ] b) One or more times a week
    - [ ] c) One or more times a month
    - [ ] d) One or more times a semester
    - [ ] e) Never

15. Show overhead transparencies
    - [ ] a) Every class
    - [ ] b) One or more times a week
    - [ ] c) One or more times a month
    - [ ] d) One or more times a semester
    - [ ] e) Never

16. Use demonstrations (live or multimedia)
    - [ ] a) Every class
    - [ ] b) One or more times a week
    - [ ] c) One or more times a month
    - [ ] d) One or more times a semester
    - [ ] e) Never

17. Address questions to the class as a whole
    - [ ] a) Every class
    - [ ] b) One or more times a week
    - [ ] c) One or more times a month
    - [ ] d) One or more times a semester
    - [ ] e) Never

18. Put students into pairs or small groups for brief intervals during class to answer questions or solve problems
    - [ ] a) Every class
    - [ ] b) One or more times a week
    - [ ] c) One or more times a month
    - [ ] d) One or more times a semester
    - [ ] e) Never

19. Put students into pairs or small groups for most of a class period to answer questions or solve problems

[ ] a) Every class
[ ] b) One or more times a week
[ ] c) One or more times a month
[ ] d) One or more times a semester
[ ] e) Never

20. Have students work on computer terminals in class

[ ] a) Every class
[ ] b) One or more times a week
[ ] c) One or more times a month
[ ] d) One or more times a semester
[ ] e) Never

21. Assign homework to individuals (as opposed to teams)

[ ] a) 1-3 times a week
[ ] b) 1-3 times a month
[ ] c) 1-3 times a semester
[ ] d) Never

22. Give students the option of working in teams (2 or more) to complete homework

[ ] a) 1-3 times a week
[ ] b) 1-3 times a month
[ ] c) 1-3 times a semester
[ ] d) Never

23. Require students to work in teams (2 or more) to complete homework

[ ] a) 1-3 times a week
[ ] b) 1-3 times a month
[ ] c) 1-3 times a semester
[ ] d) Never

24. Assign at least one major team project

[ ] a) In every course I teach
[ ] b) In some but not all courses I teach
[ ] c) Never

25. Give a writing assignment (any exercise that requires verbal explanations and not just calculations)

[ ] a) 1-3 times a week
[ ] b) 1-3 times a month
[ ] c) 1-3 times a semester
[ ] d) Never

* * *

26. How often do you use email to communicate with your entire class?
    [ ] a) At least once a week
    [ ] b) Less than once a week but more than once a month
    [ ] c) Once a month or less
    [ ] d) Never

27. How often do you use the World Wide Web to provide information to students?
    [ ] a) At least once a week
    [ ] b) Less than once a week but more than once a month
    [ ] c) Once a month or less
    [ ] d) Never

28. Do you write formal instructional objectives for your courses (detailed statements of what you expect your students to be able to do if they have mastered the course content)?
    [ ] a) Always
    [ ] b) Usually
    [ ] c) Sometimes
    [ ] d) Never

29. Do you give students study guides before regular tests?
    [ ] a) Always
    [ ] b) Usually
    [ ] c) Sometimes
    [ ] d) Never

30. Do you give students study guides before the final exam?
    [ ] a) Always
    [ ] b) Usually
    [ ] c) Sometimes
    [ ] d) Never

31. Is there a university-wide learning/teaching center or a faculty development coordinator on your campus providing consulting, a resource library, and/or workshop opportunities?
    [ ] a) Yes
    [ ] b) No
    [ ] c) I don't know

(If the answer to Question 31 is b or c, skip to Question 34.)

32. How often have you used the faculty development resources on your campus?
    [ ] a) Extensively
    [ ] b) Occasionally
    [ ] c) Once
    [ ] d) Never

(If the answer to Question 32 is d, skip to Question 34.)

33. Which faculty development services have you used (check all that apply)?

[ ] a) Attended workshops or seminars
[ ] b) Worked individually with a teaching consultant
[ ] c) Consulted or borrowed books, tapes, etc.
[ ] d) Other (specify) [ ]

34. How often do you discuss teaching techniques with your colleagues?

[ ] a) At least once a week
[ ] b) Less than once a week but more than once a month
[ ] c) Once a month or less
[ ] d) Never

35. How often do you discuss teaching techniques with your graduate students?

[ ] a) At least once a week
[ ] b) Less than once a week but more than once a month
[ ] c) Once a month or less
[ ] d) Never
[ ] e) I don't work with graduate students

36. How often do you solicit feedback from your students toward improving your teaching?

[ ] a) Every class
[ ] b) One or more times a week
[ ] c) One or more times a month
[ ] d) One or more times a semester
[ ] e) Never

37. Are you

[ ] a) female
[ ] b) male

38. How would you characterize student ratings of your teaching? (0=extremely poor, 10=superior)

[ ] (Choose a rating from 0-10.)

39. How would you characterize the average student ratings of teaching in your department? (0=extremely poor, 10=superior)

[ ] (Choose a rating from 0-10.)

Do you have any comments about the quality or importance of teaching on your campus?
[ ]

Thank you for completing this survey.

Appendix B

Survey Summary by Institution

Notes to the Appendix:

These tables show the answers to each question by institution. The number of respondents and the percent of respondents are shown for the coalition as a whole. Only the percent of respondents at each institution is shown. The sample sizes range from 64 to 99 at the Research institutions and 27 to 34 at the Masters institutions. The number of people answering an individual question may vary.

Question 1. What is your rank?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Instructor/Lecturer	17	3.4	1.2	3.1	0	4.1	5.1	6.9	5.9	3.7
Assistant Professor	97	19.4	23.2	18.8	1.5	20.4	20.2	20.7	29.4	33.3
Associate Professor	161	32.1	35.4	25.0	30.9	30.6	43.4	24.1	23.5	25.9
Professor	213	42.5	39.0	51.6	67.6	38.8	30.3	41.4	38.2	33.3
Other	13	2.6	1.2	1.6	0	6.1	1.0	6.9	2.9	3.7
Total	501	100	100	100	100	100	100	100	100	100

Question 2. Which of these categories best describes your primary position?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Teaching	49	9.9	8.6	12.9	7.5	9.4	9.1	10.3	14.7	11.1
Teaching/Research	381	77.0	85.2	74.2	73.1	77.1	79.8	65.5	73.5	74.1
Research	9	1.8	1.2	0	1.5	6.3	1.0	0	0	0
Administration	53	10.7	4.9	12.9	17.9	6.3	9.1	20.7	11.8	14.8
Other	3	.6	0	0	0	1.0	1.0	3.4	0	0
Total	495	100	100	100	100	100	100	100	100	100

Question 3. How long have you been a faculty member?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
0-2 years	41	8.2	7.2	7.8	0	10.3	9.1	20.7	11.8	3.7
2-5 years	60	12.0	18.1	10.9	0	7.2	11.1	17.2	26.5	22.2
5-10 years	101	20.2	27.7	18.8	14.9	14.4	21.2	27.6	17.6	25.9
10-20 years	163	32.6	25.3	35.9	43.3	39.2	31.3	24.1	20.6	25.9
More than 20 years	135	27.0	21.7	26.6	41.8	28.9	27.3	10.3	23.5	22.2
Total	500	100	100	100	100	100	100	100	100	100

Question 4. Since you began teaching, about how many seminars, workshops, conferences, etc., have you attended that were specifically related to teaching?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
None	73	14.7	20.5	3.1	14.9	23.2	10.1	17.2	18.2	3.7
1-2	129	26.0	27.7	18.8	23.9	26.3	29.3	37.9	24.2	18.5
3-5	148	29.8	24.1	35.9	31.3	25.3	36.4	20.7	21.2	40.7
6-10	81	16.3	16.9	21.9	14.9	13.7	15.2	17.2	12.1	22.2
More than 10	66	13.3	10.8	20.3	14.9	11.6	9.1	6.9	24.2	14.8
Total	497	100	100	100	100	100	100	100	100	100

Question 5. From September 1996 through August 1997, how many seminars, workshops, conferences, etc., did you attend that were specifically related to teaching?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
None	220	44.4	56.1	22.6	52.2	53.1	35.4	58.6	38.2	33.3
1	151	30.4	18.3	45.2	29.9	27.1	35.4	24.1	32.4	33.3
2	81	16.3	14.6	22.6	14.9	10.4	22.2	10.3	14.7	18.5
3-5	35	7.1	6.1	9.7	3.0	7.3	6.1	3.4	11.8	14.8
More than 5	9	1.8	4.9	0	0	2.1	1.0	3.4	2.9	2.1
Total	496	100	100	100	100	100	100	100	100	100

Question 6. What level of involvement have you had in SUCCEED Coalition programs?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Don't know anything	41	8.2	10.7	3.2	1.5	9.3	16.2	11.1	2.9	0
Heard, not involved	281	56.3	70.2	52.4	58.8	58.8	48.5	55.6	52.9	40.7
Attended, not active	67	13.4	11.9	17.5	13.2	7.2	11.1	7.4	23.5	33.3
Actively involved	72	14.4	4.8	20.6	13.2	15.5	19.2	14.8	8.8	18.5
Project leader	34	6.8	2.4	6.3	11.8	7.2	4.0	11.1	11.8	7.4
Other	4	0.8	0	0	1.5	2.1	1.0	0	0	0
Total	500	100	100	100	100	100	100	100	100	100

Questions 7-12 refer to "teaching quality." By this we mean teaching that sets high but attainable standards for learning, enables most students being taught to meet or exceed those standards, and produces high levels of satisfaction and self-confidence in the students.

In Question 13, rate the importance of teaching quality and innovation on a scale from 0 to 10, with 0 meaning "not at all important and 10 meaning "extremely important."

Question 7. How important is teaching quality to you?
Question 8. How important do you feel teaching quality is to most of your department faculty colleagues?
Question 9. How important do you feel teaching quality is to your department head?
Question 10. How important do you feel teaching quality is to your dean?
Question 11. How important do you feel teaching quality is to your chancellor/president and provost?
Question 12. How important is teaching quality in your institution's faculty incentive and reward system (recognition, raises, tenure, promotion)?
Question 13. How important is teaching innovation (testing new methods, writing textbooks or instructional software) play in your institution's faculty incentive and reward system (recognition, raises, tenure, promotion)?

Importance of Teaching:		Total	Research					Masters		
			BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Quality to You	M	9.26	8.98	9.29	9.32	9.32	9.37	9.21	9.21	9.48
	SD	1.02	1.27	1.01	0.91	0.89	1.00	0.94	1.09	0.80
	Range	2-10	2-10	5-10	7-10	6-10	3-10	7-10	6-10	8-10
Quality to Colleagues	M	7.34	6.83	7.97	7.25	7.25	7.73	6.76	7.47	7.04
	SD	1.68	1.68	1.26	1.57	1.68	1.59	2.32	1.67	1.61
	Range	0-10	1-10	5-10	3-10	3-10	3-10	0-10	5-10	4-10
Quality to Dept. Head	M	7.69	7.49	8.32	7.19	7.78	7.94	6.66	7.91	7.69
	SD	2.14	2.05	1.42	2.61	2.10	2.04	2.92	1.75	1.87
	Range	0-10	1-10	4-10	0-10	0-10	1-10	0-10	2-10	1-10
Quality to Dean	M	6.98	6.71	6.44	6.93	6.62	7.61	6.52	7.71	7.74
	SD	2.26	2.25	2.21	2.45	2.36	1.94	2.77	1.94	1.65
	Range	0-10	0-10	0-10	0-10	0-10	2-10	0-10	2-10	4-10
Quality to President	M	7.00	7.19	6.32	6.59	7.02	7.77	6.54	7.28	6.37
	SD	2.15	2.01	2.15	2.64	2.09	1.79	2.16	1.83	2.13
	Range	0-10	0-10	0-10	0-10	0-10	3-10	1-10	3-10	1-10
Quality in reward system	M	4.74	4.51	4.82	4.56	5.02	4.99	4.39	4.69	4.22
	SD	2.24	2.40	2.02	2.51	2.18	2.16	2.44	2.21	1.89
	Range	0-10	0-10	0-10	0-10	0-10	0-10	0-10	0-9	0-8
Innovation in Rewards system	M	4.50	4.73	4.28	4.15	4.74	4.67	4.07	5.10	3.42
	SD	2.34	2.46	2.22	2.28	2.38	2.28	2.42	2.20	2.34
	Range	0-10	0-10	0-9	0-8	0-10	0-10	0-8	0-10	0-8

Questions 14 to 25 ask the respondent to: Think of a typical undergraduate lecture course that you teach (not a lab or design course). How frequently do you use the following teaching techniques?

Question 14. Lecture for most of the class period

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	308	65.8	74.0	60.0	68.8	75.3	61.7	55.6	63.3	44.4
At least once/week	137	29.3	23.4	35.0	26.6	22.5	31.9	44.4	30.0	37.0
At least once/month	13	2.8	0	5.0	1.6	0	3.2	0	6.7	14.8
At least once/sem.	5	1.1	1.3	0	1.6	1.1	2.1	0	0	0
Never	5	1.1	1.3	0	1.6	1.1	1.1	0	0	3.7
Total	468	100	100	100	100	100	100	100	100	100

Question 15. Show overhead transparencies

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	116	24.7	19.5	30.0	18.5	29.2	33.0	18.5	20.0	11.1
At least once/week	154	32.8	32.5	41.7	21.5	29.2	36.2	37.0	30.0	40.7
At least once/month	96	20.5	26.0	11.7	21.5	13.5	18.1	18.5	33.3	40.7
At least once/sem.	70	14.9	13.0	11.7	24.6	19.1	10.6	22.2	6.7	7.4
Never	33	7.0	9.1	5.0	13.8	9.0	2.1	3.7	10.0	0
Total	469	100	100	100	100	100	100	100	100	100

Question 16. Use demonstrations (live or multimedia)

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	16	3.4	0	3.4	1.6	6.7	4.3	0	7.1	0
At least once/week	78	16.8	18.2	22.0	12.5	18.0	13.8	14.8	14.3	22.2
At least once/month	156	33.5	27.3	32.2	29.7	37.1	39.4	37.0	25.0	37.0
At least once/sem.	151	32.5	37.7	27.1	35.9	29.2	28.7	37.0	39.3	33.3
Never	64	13.8	16.9	15.3	20.3	9.0	13.8	11.1	14.3	3.7
Total	465	100	100	100	100	100	100	100	100	100

Question 17. Address questions to the class as a whole

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	391	83.9	73.7	89.8	89.2	81.1	85.9	77.8	96.7	81.5
At least once/week	60	12.9	18.4	5.1	10.8	15.6	13.0	22.2	3.3	11.1
At least once/month	10	2.1	6.6	1.7	0	2.2	1.1	0	0	3.7
At least once/sem.	3	0.6	1.3	1.7	0	1.1	0	0	0	0
Never	2	0.4	0	1.7	0	0	0	0	0	3.7
Total	466	100	100	100	100	100	100	100	100	100

Question 18. Put students into pairs or small groups for brief intervals during class to answer questions or solve problems

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	16	3.4	2.6	1.7	6.2	2.3	2.2	0	3.3	14.8
At least once/week	64	13.8	7.9	20.7	12.3	15.9	8.6	25.9	13.3	18.5
At least once/month	108	23.3	21.1	19.0	27.7	18.2	26.9	22.2	23.3	33.3
At least once/sem.	81	17.5	15.8	24.1	18.5	13.6	19.4	22.2	10.0	14.8
Never	195	42.0	52.6	34.5	35.4	50.0	43.0	29.6	50.0	18.5
Total	464	100	100	100	100	100	100	100	100	100

Question 19. Put students into pairs or small groups for most of a class period to answer questions or solve problems

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	6	1.3	0	1.7	0	2.2	1.1	3.7	0	3.7
At least once/week	30	6.4	5.2	3.4	7.7	9.0	5.3	7.4	3.4	11.1
At least once/month	55	11.8	13.0	8.6	15.4	7.9	9.6	25.9	13.8	11.1
At least once/sem.	97	20.8	18.2	25.9	16.9	15.7	24.5	14.8	27.6	29.6
Never	278	59.7	63.6	60.3	60.0	65.2	59.6	48.1	55.2	44.4
Total	466	100	100	100	100	100	100	100	100	100

Question 20. Have students work on computer terminals in class.

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	5	1.1	0	3.3	0	1.1	2.1	0	0	0
At least once/week	18	3.8	2.6	6.7	1.5	5.6	0	11.1	0	11.5
At least once/month	15	3.2	5.2	0	3.1	3.3	1.1	11.1	6.9	0
At least once/sem.	52	11.1	6.5	8.3	6.2	13.3	12.8	7.4	13.8	30.8
Never	378	80.8	85.7	81.7	89.2	76.7	84.0	70.4	79.3	57.7
Total	468	100	100	100	100	100	100	100	100	100

Question 21. Assign homework to individuals (as opposed to teams)

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
1-3 times/week	255	54.6	55.3	63.3	41.5	56.8	59.6	51.9	53.3	44.4
1-3 times/month	148	31.7	38.2	28.3	40.0	28.4	28.7	29.6	33.3	22.2
1-3 times/semester	31	6.6	1.3	3.3	3.1	11.4	6.4	11.1	10.0	14.8
Never	33	7.1	5.3	5.0	2.1	3.4	5.3	7.4	3.3	18.5
Total	467	100	100	100	100	100	100	100	100	100

Question 22. Give students the option of working in teams (2 or more) to complete homework.

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
1-3 times/week	110	24.2	24.7	25.9	23.4	15.9	27.2	24.0	29.6	33.3
1-3 times/month	78	18.2	16.4	19.0	15.6	15.9	17.4	20.0	11.1	25.9
1-3 times/semester	110	24.2	16.4	19.0	28.1	30.7	26.1	24.0	29.6	14.8
Never	156	34.4	42.5	36.2	32.8	37.5	29.3	32.0	29.6	25.9
Total	454	100	100	100	100	100	100	100	100	100

Question 23. Require students to work in teams (2 or more) to complete homework

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
1-3 times/week	45	9.7	7.8	1.7	12.3	10.1	8.6	14.8	7.1	25.9
1-3 times/month	47	10.1	9.1	15.3	9.2	6.7	12.9	3.7	7.1	14.8
1-3 times/semester	117	25.2	18.2	18.6	27.7	27.0	30.1	25.9	25.0	29.6
Never	256	55.1	64.9	64.4	50.8	56.2	48.4	55.6	60.7	29.6
Total	465	100	100	100	100	100	100	100	100	100

Question 24. Assign at least one major team project

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
In every course	111	23.8	20.8	25.0	21.9	17.8	26.9	36.0	20.0	37.0
In some but not all courses	242	51.9	41.6	51.7	51.6	46.7	58.1	52.0	66.7	63.0
Never	113	24.2	37.7	23.3	26.6	35.6	15.1	12.0	13.3	0
Total	466	100	100	100	100	100	100	100	100	100

Question 25. Give a writing assignment (any exercise that requires verbal explanations and not just calculations)

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
1-3 times/week	36	7.7	13.3	6.7	3.1	11.1	4.3	18.5	3.7	0
1-3 times/month	131	28.2	21.3	35.0	18.5	27.8	35.1	29.6	29.6	29.6
1-3 times/semester	225	48.4	50.7	38.3	58.5	38.9	52.1	48.1	51.9	55.6
Never	73	15.7	14.7	20.0	20.0	22.2	8.5	3.7	14.8	14.8
Total	465	100	100	100	100	100	100	100	100	100

Question 26. How often do you use email to communicate with your entire class?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
At least once/week	122	24.6	27.7	17.5	23.5	16.0	37.4	25.0	24.2	18.5
< once/week, > once/month	110	22.2	20.5	23.8	20.6	18.1	24.2	32.1	33.3	11.1
Once/month or less	90	18.2	18.1	31.7	26.5	8.5	9.1	25.0	21.2	22.2
Never	173	34.9	33.7	27.0	29.4	57.4	29.3	17.9	21.2	48.1
Total	495	100	100	100	100	100	100	100	100	100

Question 27. How often do you use the World Wide Web to provide information to students?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
At least once/week	136	27.6	30.5	15.9	28.8	36.5	26.5	31.0	25.0	14.8
< once/week, > once/month	67	13.6	14.6	14.3	7.6	12.5	13.3	17.2	18.8	18.5
Once/month or less	105	21.3	20.7	25.4	28.8	15.6	20.4	17.2	21.9	22.2
Never	185	37.5	34.1	44.4	34.8	35.4	39.8	34.5	34.4	44.4
Total	493	100	100	100	100	100	100	100	100	100

Question 28. Do you write formal instructional objectives for your courses (detailed statements of what you expect you students to be able to do if they have mastered the course content)?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Always	194	39.0	41.0	41.9	36.8	34.7	40.4	44.8	32.4	44.4
Usually	104	20.9	19.3	19.4	17.6	20.0	27.3	27.6	14.7	18.5
Sometimes	103	20.7	22.9	17.7	17.6	23.2	16.2	13.8	29.4	33.3
Never	96	19.3	16.9	21.0	27.9	22.1	16.2	13.8	23.5	3.7
Total	497	100	100	100	100	100	100	100	100	100

Question 29. Do you give students study guides before regular tests?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Always	170	34.8	40.2	24.6	34.8	43.6	32.3	35.7	24.2	30.8
Usually	117	23.9	25.6	18.0	27.3	21.3	20.2	21.4	33.3	38.5
Sometimes	107	21.9	17.1	27.9	22.7	20.2	27.3	28.6	6.1	19.2
Never	95	18.4	17.1	29.5	15.2	14.9	20.2	14.3	36.4	11.5
Total	489	100	100	100	100	100	100	100	100	100

Question 30. Do you give students study guides before the final exam?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Always	193	39.1	37.3	25.8	44.8	45.7	35.4	42.9	36.4	51.9
Usually	103	20.9	22.9	14.5	25.4	21.3	21.2	17.9	15.2	25.9
Sometimes	87	17.6	18.1	21.0	13.4	17.0	21.2	25.0	9.1	11.1
Never	110	22.3	21.7	38.7	16.4	16.0	22.2	14.3	39.4	11.1
Total	493	100	100	100	100	100	100	100	100	100

Question 31. Is there a university-wide learning/teaching center or a faculty development coordinator on your campus providing consulting, a resource library, and/or workshop opportunities?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Yes	316	63.3	89.2	42.9	58.2	71.1	76.8	41.4	47.1	11.1
No	29	5.8	1.2	14.3	3.0	0	2.0	3.4	5.9	44.4
I don't know	154	30.9	9.6	42.9	38.8	28.9	21.2	55.2	47.1	44.4
Total	499	100	100	100	100	100	100	100	100	100

Question 32. How often have you used the faculty development resources on your campus?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Extensively	11	3.2	7.7	0	0	1.4	4.0	0	5.6	0
Occasionally	127	37.5	28.2	43.8	16.7	42.3	53.3	26.7	50.0	12.5
Once	48	14.2	15.4	9.4	19.0	9.9	17.3	13.3	11.1	12.5
Never	153	45.1	48.7	46.9	64.3	46.5	25.3	60.0	33.3	75.0
Total	339	100	100	100	100	100	100	100	100	100

Question 33. Which faculty development services have you used (check all that apply)?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Attended workshops/seminars	171	88.6	87.2	88.9	94.4	85.0	94.4	42.9	92.3	100.0
Worked w/teaching consultant	26	13.5	33.3	0	0	10.0	11.1	14.3	15.4	0
Borrowed books, tapes, etc.	60	31.1	38.5	16.7	38.9	35.0	22.2	71.4	23.1	25.0
Other	18	9.3	15.4	0	0	12.5	11.1	0	0	0

Note: respondents could give more than one answer. If they answered "never" to question 32, they were instructed to skip this question. There were a total of 193 respondents to this question. The number of responses ranged from 4-13 at the Masters institutions and 18-54 at the Research institutions.

Question 34. How often do you discuss teaching techniques with your colleagues?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
At least once/week	61	12.3	16.9	23.8	17.6	8.3	8.1	3.4	5.9	4.0
< once/week, > once/month	203	40.8	34.9	49.2	41.2	40.6	42.4	41.4	44.1	28.0
Once/month or less	209	42.1	42.2	25.4	33.8	46.9	47.5	48.3	44.1	56.0
Never	24	4.8	6.0	1.6	7.4	4.2	2.0	6.9	5.9	12.0
Total	497	100	100	100	100	100	100	100	100	100

Question 35. How often do you discuss teaching techniques with your graduate students?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
At least once/week	34	6.9	6.1	6.6	7.4	10.4	4.1	14.3	6.5	0
< once/week, > once/month	106	21.6	26.8	21.3	20.6	26.0	23.5	7.1	16.1	7.4
Once/month or less	231	47.0	51.2	47.5	58.8	44.8	48.0	35.7	35.8	44.4
Never	77	15.7	12.2	18.0	10.3	13.5	15.3	25.0	22.6	25.9
Don't work with grad students	43	8.8	3.7	6.6	2.9	5.2	9.2	17.9	29.0	22.2
Total	495	100	100	100	100	100	100	100	100	100

Question 36. How often do you solicit feedback from your students toward improving your teaching?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Every class	20	4.0	3.6	3.2	0	5.3	3.0	10.7	5.9	7.4
At least once/week	53	10.7	8.4	7.9	10.3	15.8	7.1	21.4	5.9	14.8
At least once/month	133	26.8	28.9	19.0	26.5	26.3	28.3	25.0	35.3	25.9
At least once/sem.	285	57.3	59.0	69.8	60.3	50.5	60.6	39.3	52.9	51.9
Never	6	1.2	0	0	2.9	2.1	1.0	3.6	0	0
Total	497	100	100	100	100	100	100	100	100	100

Question 37. Are you?

	Total		Research					Masters		
	N	%	BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Female	50	10.2	17.3	6.3	1.6	13.5	9.4	11.1	11.8	7.4
Male	438	89.8	82.7	93.7	98.4	86.5	90.6	88.9	88.2	92.6
Total	488	100	100	100	100	100	100	100	100	100

Question 38. How would you characterize student ratings of your teaching? (0=extremely poor, 10=superior)
Question 39. How would you characterize the average student ratings of teaching in your department? (0=extremely poor, 10=superior)

		Total	Research					Masters		
			BETA	THETA	ETA	ZETA	OMEGA	PI	PSI	PHI
Your ratings	M	7.92	7.94	7.90	7.81	8.26	7.84	7.50	7.76	8.00
	SD	1.13	1.08	1.20	1.25	1.06	1.01	1.48	1.12	0.94
	Range	3-10	4-10	3-10	5-10	5-10	4-10	5-10	5-10	5-10
Ratings of department	M	6.89	7.06	6.87	6.86	6.92	7.02	6.11	6.86	6.74
	SD	1.03	1.04	0.87	0.92	0.95	0.87	1.69	1.16	1.16
	Range	1-10	4-10	5-9	5-9	4-9	5-9	1-9	5-10	4-9